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MEDICAL EDUCATION

SOME FACTORS SHAPING THE POLICIES OF FACULTIES OF MEDICINE

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MEDICAL FACULTIES in Canada today find themselves in much the same predicament as the prisoner of the Inquisition in Poe's famous short story. They are pressed from all sides until the only escape seems to be self-destruction in a fiery pit. These pressures are produced by other medical schools, by university administrations, by staff, students and alumni, by medical groups and lay groups, and by the public at large. Most suggestions, criticisms and pressures are felt by the originators to be essential to better medical education, but if all were yielded to, complete and utter chaos would result.

The primary function of medical schools is acknowledged to be to provide the best possible education for their students and to provide it in as stimulating an atmosphere as possible. To ensure that this is achieved the Association of American Medical Colleges, to which all Canadian faculties belong as associate members, maintains a system of accreditation. To lose accreditation is tantamount to destruction, for prospective staff and prospective students will shun the unaccredited; and since there are too few top-notch staff and top-notch students to go round, an unaccredited school will inevitably perish. Thus a very real and largely irresistible pressure, which is undoubtedly necessary, and which greatly improves the standards of education, is produced by the schools themselves.

This first, and very major, pressure results in financial demands by the schools to obtain the facilities and staff necessary to meet these objectives. These demands are often difficult for the university administration to meet, and pressure is thus exerted that tends to curb this expansion.

One facet of the expansion is the employment of so-called geographic full-time clinicians (ones who receive a large university salary and have limited consulting privileges). These appointments, of course, produce added expense and tend to be resisted by the university. This trend is also resisted by many practitioners, who then supply an added source of pressure on the medical educators.

It is the considered opinion of these educators that some geographic full-time appointments are necessary for adequate teaching. These appointees form a nucleus, but only a nucleus. In Canadian schools a great percentage of the teaching is still done, and will continue to be done, by part-time teachers who, with little or no remuneration, devote many hours to training others in their specialties.

The university administration usually finds that its medical faculty is like a beautiful débutante—a spectacular creation that attracts much outside attention and comment but is a tremendous drain on the pocketbook, and possessed of a strong will of its own. The university does its best, but the school keeps crying for more, and somewhere along the line a parental foot may be firmly, and sometimes not too gently, put down.

There is often, among medical groups, a certain amount of misunderstanding about the fundamental role of the university in medical education. At times this feeling verges on being antagonistic and is expressed in some version of "What can they know of the training a doctor needs?"

Universities provide many things to the medical schools and often get so little thanks in return that many of the staff, including geographic full-time appointees, do not seem fully to realize that they are members of a university staff. The universities provide an atmosphere in which teaching and learning, research and discussion can be carried out. They understand the fundamental problems of imparting knowledge and gaining wisdom; they provide colleagues in many fields who can help stimulate thought and solve problems. But above all they provide high standards and insist that these be met. After the Flexner report it was the university schools that survived and the non-university schools that perished. The universities

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demanded high standards of medical education and provided the staff and facilities that made these possible.

Our schools, attached to and dependent upon universities as they are, must listen to the parental voice; without it we are lost.

The staff often appear, to the dean and his associates, to consider the university as a good place in which to work provided the students do not interfere. Research often seems to be much more important than teaching, and additional staff are requested so that existing staff will not be overburdened by pedagogical duties. This however is but one way in which the staff itself applies pressure.

Those in the clinical departments demand more time at the expense of the basic sciences. These then react harshly if they are accused of passing students who do not know the fundamentals, and they try to regain their lost time (with added staff, of course, to take care of the increased load).

The students cry out that they are overwhelmed. They realize that they must gain a certain amount of basic knowledge before they graduate, but they are not prepared to take more than four years in medical school. They dislike the lengthening of the term that has recently been in vogue, but they do realize the necessity for it.

Students, at least the more vocal ones, together with many outside groups and members of staff, insist that they should receive concurrent training in the humanities to make them well-rounded doctors. Administrators retaliate with remarks about knowledge of the economic situation in Timbuktu seeming pretty inconsequential when a patient must rely on the fundamental medical knowledge and skill of his doctor. As yet no one has indicated how we would cope with a situation in which the son of a prominent alumnus is prevented from graduating because he has failed, in his final year, a course in, say, "advanced Platonic philosophy." If the courses in the humanities are not made compulsory, they might as well not be given. If they are compulsory, situations like the one just described are inevitable.

With the demand for training in the humanities is coupled a demand for students to learn the social aspects of medicine. While admitting the validity of this request, educators are baffled about how to proceed. Lectures on this subject are given but leave something to be desired. Attempts to have each student "adopt" a family (or vice versa) and see the many effects that illness has upon this family are not unqualified successes. Observing social workers as they deal with patients is also a common practice, but the understanding gained is at best fragmentary.

Alumni and other medical groups, particularly general practitioners, complain that our students, by and large, are taught by specialists, and the other specialists complain that students receive much of their training from geographic full-time appointees who are insulated from the hurly-burly of office practice. There is merit in each of these complaints, but how much should we permit them to influence us?

The public, who after all pay a large share of the expense of most medical schools, primarily want graduates who can practise sound medicine and who will advance the frontiers of medical science. Having a doctor who is well versed in social sciences and who is a community leader is, to them, of secondary importance. Should not he who pays the piper also have his say?

We who sit on curriculum committees and on appointments committees must make our decisions. In most medical faculties the decisions are fundamentally the same: to produce a good, basically trained graduate who may go into one of many possible lines: general practice, specialization, teaching, research, public health, or administration, to mention a few. To do this we must now have adequate budgets, adequate staff (including some geographic full-time appointees) and adequate time to devote to medical subjects.

To produce this well-trained "undifferentiated doctor" who can think for himself and who can meet unexpected situations and baffling cases with calmness and wisdom, we must impart a firm grounding in basic and clinical sciences. Who can impart this grounding better than men particularly trained in their own special fields? To give this training we need all the time we can muster; we would like to give our students courses in the humanities that they do not get in their pre-medical work, but to do this would tax them with an additional burden, one that might spell disaster to many of our poorer students.

For this reason we prefer to give all students some free time; this amounts to one uninterrupted afternoon a week throughout the entire course at the University of Alberta. During this time the students can read Spinoza or Spillane, sleep or study, just as they wish. If there are students who truly wish to broaden their knowledge, rather than merely to complain about the narrowness of their education, they can do so in this time. The clever students would be able to do this and still fill the other commitments they have as medical students; the poorer ones cannot afford this luxury. This seems to us better than compelling unwilling students in the class to risk their medical careers so that the few who would really profit by this broader training can receive it.

To give the fundamental training we wish our students to have, we need some staff who can devote many hours to curriculum planning, and to teaching a whole class, a small group, or an individual. These men are found on our geographic full-time appointments. They are specialists, almost all Fellows of the Royal College of Physicians and Surgeons, who carry on consulting practices and are in constant touch with patients. They can impart to students the fundamental portions of

their subjects and take the time to relate these to the other clinical subjects and to the knowledge of the body and its functions that the students obtain in their studies of the basic sciences.

By taking the time to teach small groups, to discuss cases, to stimulate thought and imagination, they create an atmosphere in which students will want to learn, and to learn how to learn; this is something no amount of didactic teaching can produce. This is a major reason for the employment of geographic full-time staff.

General practitioners, singly and in organized groups, complain that medical faculties ignore them, and ask for recognition and a place in the faculty. Even though only approximately 50% of our graduates go into general practice they urge schools to direct their training towards general practice – and they have a good case.

But what, precisely would their function be in a medical faculty? They themselves are not sure. Many schools now offer, or cooperate in, preceptorship plans whereby students can live with general practitioners and get a first-hand view of medical practice. It is suspected that this method scares off as many prospective general practitioners as it attracts, and there is no doubt that the preceptorship plan is not an unqualified success.

Other schools have general practitioners in the outpatient departments teaching medical students. Here conditions simulate office practice more closely than in any other facet of undergraduate teaching. But pædiatricians and internists also run effective teaching clinics in the outpatient departments, referring cases not in their specialties to other appropriate clinics as general practitioners would usually do. Apparently students learn as much under one system as the other.

The inclusion of departments of general practice in some teaching hospitals has also been tried, but the results are as yet equivocal.

Where then do the general practitioners best fit into the overall plan of medical education? Perhaps their place is really in graduate or postgraduate teaching. The College of General Practice now recommends two years of internship for general practice; perhaps part of this time could best be spent "articling" in the office of an experienced man, as fledgling lawyers are now expected to do. The Royal College of Physicians and Surgeons recognizes the place of this type of training in certain specialties; could not the same be asked of general practitioners?

Medical schools now find it impossible to train one specific type of graduate without making all other types suffer unduly in their training. Could not the embryo general practitioner pass through the final process of parturition in a colleague's office?

There is yet another type of pressure that administrators of a medical faculty must yield to or resist. Special groups request special training, and these requests vary with medical knowledge and the times in which we live. For instance, at present, we are urged to teach the medical aspects of civil defence. Other groups feel that in the atomic age all medical students should receive an understanding of radiobiology. A few years ago genetics rightfully shouldered its way into most curricula. As each new subject takes up time and space, another subject must retract a little, and that little most reluctantly.

The varied pressures herein described are constant factors in the shaping of medical school policy. The manner in which the administrators of the faculty react to them determines the value of the education the students will receive. It must be realized that these pressures will change, and their relative importance will change, and so our educational policy must be under constant review. If we do not understand this fact it is clear that there is grave danger that our educational epiphyses will ossify.

It is also clear that every dean must have a broad understanding of medical education and must use his utmost diplomatic efforts to keep peace within his family and to keep the family at peace with the world.

HUMAN DEVELOPMENT AS A UNIFYING FACTOR IN MEDICAL EDUCATION

"Students with a strong background in human biology, broadly conceived, might come to medicine with both a broader and a deeper orientation than they can now secure in a course in human development or human biology given in the medical school in a relatively short period of time during the first year or so. If the preprofessional phase of the medical student's education were to be built in considerable part around the theme of human growth and change, presumably faculty members from the appropriate professional schools, as well as those from the basic disciplines in the college or the graduate school of arts and sciences, would participate in planning and conducting the program. If the medical school is to be an integral part of the university, the medical faculty should have much to contribute to the study of the behavioral sciences in the college, just as certain members of the college faculty may make an important contribution to professional education."
—H. H. Gee and P. T. Cowles, Eds.: The Appraisal of Applicants to Medical Schools, Association of American Medical Colleges, Evanston, Ill., 1957, p. 20.

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AN OUTPATIENT DEPARTMENT AND THE TEACHING OF PREVENTIVE MEDICINE*

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MANY CHALLENGES face the contemporary medical school striving to educate "undifferentiated" or "blast"[1] physicians, adequately prepared for post-graduate training in the diverse activities required for the optimal satisfaction of society's medical needs.

The achievement of this undergraduate educational goal necessitates both the coordination of divergent and occasionally conflicting interests of the faculty, and the provision of an environment in which the student may integrate experiences and knowledge as he matures personally and professionally.[2] Opportunities to develop educational methods directed toward this goal were provided in 1952 when the University of North Carolina expanded its 75-year-old, two-year medical school to a four-year program with the addition of a full-time clinical staff and a university hospital. Abundant opportunities were provided for experimentation with new approaches to old problems of medical education. Among these new approaches was a strong emphasis on preventive medicine and on the social and emotional components of health. To further these aims a General Clinic for senior students was established as an interdepartmental teaching activity of the departments of medicine, preventive medicine and psychiatry.†

A better understanding of this clinic's role in the student's education may be obtained if other innovations in the curriculum are described briefly. A first-year course in "human ecology" taught by the departments of psychiatry and preventive medicine attempts to delineate the human and socio-environmental setting in which the study of health and disease may be most realistically pursued by students.[3] Individual student research projects carried out with faculty members are encouraged, and in 1958 almost forty per cent of the students undertook original investigations. Most of these projects form the basis for a "senior paper" or thesis required of each student for graduation; many have considerable scientific merit and are presented at professional meetings.

Modification of the traditional second-year course in medicine has permitted correlation with teaching in psychiatry, surgery and pathology. Students first consider the patient-physician relationship, are instructed in interviewing techniques and history taking, and proceed to the evaluation and understanding of symptoms and signs as expressions of disordered function, then to physical examination and finally to laboratory diagnosis. Twenty-two lectures in biostatistics and 30 lectures in epidemiology are given by the department of preventive medicine, the latter correlated with the course in microbiology.

In the third year, students serve as ward clerks, spending 14 weeks each on medicine and surgery, and seven each on pædiatrics and psychiatry. Daily ward rounds are the core of these teaching programs, but there is also an integrated series of lectures by members of the departments of medicine, pædiatrics and surgery, covering recent developments, controversial problems and the most significant aspects of the pathological physiology of a wide spectrum of disorders. A series of 20 lecture discussions focused on "The Doctor and His Community" is conducted by the department of preventive medicine.

Another series of weekly interdepartmental "lectures in medical science" for the third-year and fourth-year students, house staff, and faculty intensively covers selected aspects of such topics as cancer, thyroid disease, anxiety, and biological hazards of radiation. Lecturers from the medical school, other university departments and other universities participate in each series.

Fourth-year students spend 10 weeks on an obstetrics and gynæcology clerkship, five weeks in the psychiatric clinic, five weeks with the surgical sub-specialties and half the year (20 weeks) in an outpatient clerkship. One-third of this clerkship is spent in the pædiatric clinic and two-thirds in the adult General Clinic. The latter is a separate administrative entity from the obstetrical, orthopædic, urological, psychiatric, and pædiatric clinics and represents a substantial departure from traditional medical outpatient clinics in several respects.[4]

The General Clinic provides "comprehensive" diagnostic and treatment services for general and specialized medical and surgical problems referred from the eastern two-thirds of North Carolina, a predominantly rural state, by family physicians and specialists, for a variety of reasons.[5] After a thorough study, patients are returned to their family physicians, since the clinic only provides continuing primary medical care for a few patients carried on two teaching programs. About 40,000 visits are made annually to the outpatient department but only 1800 new patients are seen in the General Clinic; this small number has been adequate for undergraduate teaching. Many General Clinic patients are the "private" patients of referring physicians and pay a Clinic fee; some are medically indigent, and a small number are totally indigent "welfare" patients.

The director of the General Clinic is chairman of the department of preventive medicine and holds a joint appointment in the department of medicine.*

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A "core" group of eight full-time members of the departments of medicine and preventive medicine spend much of their teaching and research time in the General Clinic, but not to the exclusion of other in-patient, research and administrative responsibilities. All members of the department of medicine, including the chairman, work in the General Clinic both as individual student preceptors and attending physicians. Although at times unpopular with specialized internists, this responsibility keeps the senior staff in touch with ambulatory patients and maintains their interest in general medical problems. In addition to the "core" group, the full-time members of the department of medicine and several part-time internists, an epidemiologist interested in chronic diseases and five psychiatrists act as preceptors. The latter have had considerable experience in internal medicine and see unselected patients. Their participation does much to help those students and instructors who are uncertain about the relevance of psychological and socio-environmental factors to the care of sick people.

Although originally controversial, it now is generally accepted by the department of medicine that there are many advantages for both students and instructors to assigning a highly specialized consultant, say a neurologist or hæmatologist, to a random medical patient. Students may observe the neurologist applying his skills in interviewing and in evaluating the evidence from a patient with a gastro-intestinal or cardiovascular problem, and learn the basic skills of medicine as a scientific discipline, distinguished from the factual content of the specialty.

Morning sessions of the clinic are concerned with the initial or general examinations of all patients. In the afternoons, sub-specialty sections, fewer in number than those found in most out-patient departments, provide consultant services and follow up small numbers of patients with complicated problems in whom the staff has primarily research interests. The sub-specialty sections are limited to: gastroenterology, metabolism, neurology, dermatology, allergy, cardiology, chest disease, hæmatology and chronic disease. The latter two are used only for graduate teaching.

One untested hypothesis underlying the General Clinic program states that among the best learning stimuli for a medical student is a new "unlabelled" ambulatory patient or "clinical unknown". These new patients are seen by appointment and after preliminary laboratory work are assigned randomly to students. Letters, roentgenograms and other data from the referring physician are withheld until the student has completed his work-up. Analysis of the patient distribution over a two-year period indicates that individual students encounter a wide spectrum of human disease, including the common, the obscure and the bizarre. "Old" patients—that is, those seen in the clinic during the previous year—are not assigned to students, but rather to the house staff or to one of the sub-specialty sections. Patients with overt psychiatric problems are sent to the psychiatric clinic.

A second untested hypothesis states that a medical student is optimally stimulated to learn when given patient responsibility commensurate with his stage of development and when provided with ample supervision from senior instructors. In the General Clinic student-physicians follow up their new patients for from one to five and occasionally ten visits, but usually for two to four visits. A few patients may be followed up for as long as 20 weeks. When the patient's health problems have been clarified, perhaps understood and occasionally resolved, the patient is usually returned to his referring physician. Complicated problems requiring periodic follow-up may be referred to a sub-specialty clinic which collaborates with the family physician in the patient's care.

On completion of the work-up, the student presents the patient to his preceptor. Together they review the data obtained by the student and discuss the problem; the preceptor examines the patient, and laboratory tests, consultations, and use of ancillary services such as social service, public health nursing and vocational rehabilitation are planned. Reading is assigned to the student and if appropriate the management regimen may be considered at this point. At the patient's second visit, the student's reading is discussed in detail and the patient's progress reviewed. When consultations are indicated, the student first evaluates his patient as extensively as possible, obtaining the necessary diagnostic studies and formulating the specific questions to be asked when he presents his patient personally to the consultant. In this manner it is hoped that the student learns both the advantages and limitations of consultation. The consultant, in turn, is usually able to provide more effective teaching and patient care when given the necessary data with which to work. Considerable emphasis is placed on these experiences since there is evidence from studies currently being conducted in the clinic that family physicians, university consultants and medical students frequently have serious difficulties in communication, which work to the disadvantage of the medical student as well as the patient.

The student's primary responsibility in the General Clinic is to his 20 or more new patients, and conflicts in schedules are resolved in favour of the student's own patients. To provide continuity of student-patient and student-preceptor relationships and to minimize conflicts, the same student, patient, and preceptor meet on the same day at weekly or fortnightly intervals for return visits.

Each student is assigned to one major and one minor sub-specialty section, usually of his own choosing, and all go to the dermatology, allergy, ophthalmology and otolaryngology clinics. A major sub-specialty section is visited about 12 times and a minor about four times. The aim of this program

is not so much to teach the content of the sub-specialty as to give the student some appreciation of the potentialities and restrictions of highly specialized practice and, within a given area, to see a wide variety of complicated disorders.

Two other programs round out the patient assignments. The first is a "Home Health Service"[6] to which students are assigned in pairs to care for home-bound indigent patients whom they visit regularly under staff supervision, assisted by a public health nurse. These patients present serious, frequently fatal, illnesses complicated by adverse socio-environmental conditions and provide significant educational challenges to the students. The second is a "Continuity Program" in which each student is assigned one preceptor and an ambulatory patient in need of continuing medical care at the General Clinic. Together the preceptor and student follow up the patient for 20 weeks, discussing the many problems presented by the disease process, the patient and his environment. Opportunities for observing the fluctuations and vagaries of the patient-physician relationship are especially abundant in this context.

One of the deficiencies of traditional outpatient teaching has been its lack of organization. On the hospital ward, the patient is kept horizontal and readily available, frequently more for the convenience of the staff than for the welfare of the patient. In the clinic, the patient is vertical, independent, and available only briefly, so that closer scheduling of all activities is required to make effective use of his presence. Teacher, student, and patient are the primary factors in the learning process, but experience has taught that, in the outpatient department, the efforts of all participants must be carefully planned and highly co-ordinated if educational opportunities and medical care standards are to be optimal.

Daily teaching "rounds" similar to those on the inpatient wards are conducted in the General Clinic by a member of the senior staff. A student presents the new patient he has worked up that day to the attending physician and other students not assigned new patients or seeing their own return patients. After discussing the patient's problems with the group, the staff physician serves as preceptor for the student and his patient.

By means of didactic or socratic teaching methods, various topics in pædiatrics, ophthalmology, otolaryngology, radiology, electrocardiography, ambulatory medicine, medical emergencies, genetics, biostatistics, and dentistry are discussed at a series of early morning conferences. Patients on the Home Health Service are used to illustrate certain aspects of the management of chronic diseases and rehabilitation. A psychiatrist discusses patients on the Continuity Program to illustrate aspects of psychological medicine and the patient-physician relationship. A series of conferences on selected aspects of the natural history and prevention of disease utilizes data developed by epidemiologists, behavioural scientists, geneticists and others to discuss some of the broader parameters through which better understanding of chronic diseases may be approached. Late each afternoon one of the sub-specialty sections has a clinical conference in which disease processes are illustrated by patients from the clinic. There is a weekly Combined Staff Conference, attended by members of all departments, at which are presented staff or student research projects, clinico-pathological and clinical conferences, and addresses by distinguished visitors to the medical school.

The General Clinic program emphasizes internal medicine as the basic clinical discipline in contemporary medicine and prevention as the basic emphasis in teaching. It provides opportunities for both students and faculty to understand the patient in the broadening context provided by developing knowledge from psychiatry, the behavioural sciences, genetics, epidemiology, and medical care economics. Familiarity with these new disciplines may be as fundamental to effective understanding of health and sickness as knowledge of the pathological physiology of disease processes.

The integrated educational program in the General Clinic is the culmination of the student's four years at this medical school, and derives much of its value from a solid preparation in the basic sciences and from the earlier collaborative teaching programs. Effort is directed in the clinic towards helping the student to understand the sick patient and his problems as thoroughly as possible while avoiding inappropriate emphasis on any one facet. The aim is to make medicine more scientific, not less, and to provide a common professional experience for all graduates with the ultimate hope of substituting knowledge and prevention for our present inadequate therapies.

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MORE MONEY FOR EDUCATION

At the Canadian Conference on Education last year, 850 delegates representing three million Canadians said: "We must spend more money on education."

In 1957, Canadians spent: $1687 million on defence, $1865 million on cars, $1322 million on tobacco and alcoholic beverages, and only $1020 million on education.

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EXPERIMENTS IN MEDICAL EDUCATION—BRITISH POINTS OF VIEW

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IN GREAT BRITAIN the body responsible for ensuring that doctors are properly trained is the General Medical Council. Since its inception 100 years ago it has attempted to control standards by issuing recommendations on the curriculum and examinations, and by inspecting the latter. It has never issued regulations, and has concerned itself only with indicating minimal standards. Until very recently it had no power to inspect medical schools. A more benign influence is hard to imagine, but benign influences seldom lead to drastic reforms. In fact the General Medical Council has always realized that if it enforced action upon medical schools it would at the same time take away their freedom of initiative and thereby create a standardized training throughout the country. This it has always attempted to avoid. It has tried to give the licensing bodies and universities as much freedom as possible, while itself remaining under the statutory obligation to ensure that at qualification every student was safe to practise medicine, surgery and midwifery.

The British medical schools have been for 150 years primarily under the dominance of hospitals, and although the National Health Act placed on the teaching hospitals the duty of safeguarding medical education, it could not instruct their boards of governors in the nature of that duty. Whole-time university appointments in clinical subjects have not existed for long, are still few in number and in some schools are not yet to be found at all. The majority of teachers are primarily occupied in clinical practice and indeed have to fulfil most of their teaching responsibilities to the university and carry out their medical responsibilities to the Ministry of Health at one and the same time. Specialization has greatly increased the number of these teachers, thus weakening the cohesion of the teaching team, and much reducing the contacts between students and staff. The majority of teachers have therefore had difficulty in visualizing the educational problem as a whole and have been too busy to tackle it anyway.

In consequence, although in the last 12 years medicine in Britain has changed as rapidly as in any other country, and although radical changes have been made in the medical services, little has been done to adapt its educational methods to these new conditions. Attention has been drawn to this failure by a continuous stream of reports, but although many of these have been carefully studied abroad, they have none of them resulted in much action at home. This is not really surprising, for several reasons.

In the first place the medical profession in Britain is very jealous of tradition and is suspicious of theory and experiment. Its tradition is firmly based on the principle of personal care of the individual patient taking priority over all other considerations. For example, the organization of hospital staffing in Britain is unusual in that every permanent member of the staff has independent control of his own beds and clinics—there are no heads of services. Such a tradition inevitably makes us slow to adapt to changing circumstances, although it also ensures that when we do adapt we are unlikely to deviate far from a proper course.

Secondly, in such a compact community as Britain, there has naturally been great reluctance to relinquish the educational objective of ensuring that on graduation the student is safe to practise. This has been felt to be obligatory in a great public service, and the reluctance has persisted until this safeguard has been plainly seen to be both meaningless and unnecessary in the stage of undergraduate training. The statutory requirement, made a few years back, of 12 months' compulsory internship between graduation and registration, has greatly weakened the general belief that the curriculum must be comprehensive and include training in all branches of medicine.

Lastly, it must be remembered that the National Health Service, however necessary and valuable, was a sudden, massive and unprepared experiment imposed on the profession from without, and reaction to further innovations in the field of medical education was both natural and inevitable. Therefore no radical improvement could be expected until the climate of opinion had radically changed, and for a long while it was easy enough to maintain all the appearances of the status quo by regarding the recommendations of the General Medical Council as regulations.

In 1957, however, the Council issued new recommendations. In essence it has abandoned the control of standards by prescription in favour of control by inspection. No minimal periods for the study of particular subjects have been laid down. All such matters are left to licensing bodies and the medical schools to decide for themselves, bearing in mind that "the primary task at the present time is to find a means of reducing the congestion in the curriculum: to instruct less and to educate more". The Council points out that the emphasis on vocational experience and training, which was previously regarded as necessary, has been the major cause of the congestion, and states that it is now "impressed with the importance of ensuring that the practitioner of the future is adequately trained in the medical sciences", and that he has time to cultivate scientific method.

These "recommendations may be considered as the latest in the long series of enlightened British reports on medical education, but the first which

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carries the weight of statutory authority. They indicate the general direction which our education is to take, and give to each university the responsibility of proceeding along it by whatever course it considers best. The Council even goes so far as to ask the universities not to regard future inspections as in any way limiting their right "which may equally well be described as a duty, to experiment with different courses and various methods of teaching".

Clearly the speed of progress and degree of experiment will vary from one university to another. Some have been thinking in terms of educational objectives, and are forming educational plans from which a curriculum will emerge. Others are adopting the opposite procedure of taking their existing curriculum as a starting-point and considering possible rearrangements. Some may possibly carry out a specific experiment within the overall framework of their present system. It is likely that some, by design or by default, will continue their present course unchanged, awaiting the comments, whatever they may be, of the General Medical Council after its next inspection.

In general, the climate of opinion has moved in favour of a true university education in medicine, and accepts that this can be achieved only by concentrating less on teaching groups of students and more on caring for, guiding and stimulating the learning and experience of the individual student. This desire to instruct less and educate more is not accompanied by any waning of belief in the importance of a long and thorough training in clinical technique. There is the strongest determination everywhere to maintain this traditional emphasis of British medical education, and the clinical apprenticeship system of "firms" on which it is based. Indeed it was the realization of the degree to which specialization has weakened this system by over-extending it which finally changed the climate of opinion. It is at last obvious that resistance to change will not result in the maintenance of traditional methods but only in their demolition, for if in an era of specialization our old system of education is continued without adaptation, the result can only be the subdivision of the curriculum into an ever-increasing series of appointments of shorter and shorter duration—a most radical and unplanned experiment of the greatest magnitude.

To some extent therefore the battle in each medical school is between those labelled "progressive", who aim to increase the emphasis on education and at the same time to restore the efficacy of clinical training, and those who call for the maintenance of the old practical training but demand that their specialties be included in it to a degree never previously known. The extent to which any school can agree to change its curriculum depends of course upon the relative strengths of these two groups.

In British schools policy is decided by group decisions, and individuals, such as deans, have none of the authority which is often vested in them in North America. The greatest change is to be expected in those schools in which there is a cohesive teaching team. This cohesion depends in turn upon the number of teachers who are able and willing to give time to the problems of education, and therefore depends upon the number who are able to make themselves "geographically whole-time". This number is greater in the university medical schools in the provinces than in the 12 hospital medical schools of London—for several reasons, of which the size of the city is the most important.

Any increase in interdepartmental teaching obviously requires that clinical teachers should be able to work to a varying timetable, and that while teaching they should not be expected to fulfil Health Service obligations by caring for patients at the same time. Fortunately, an increasing number of younger men are seeking conditions of service which allow them to practise medicine in a teaching hospital and in private, to play an active part in education (rather than merely to teach), and to remain engaged in clinical scientific research. They are not always successful, for the hospital staffing of the Health Service was largely patterned on the pre-existing system of consultants attending several different hospitals, a system which did not allow for the time required for scientific research.

In schools where there is a strong nucleus of clinicians with scientific interest and training, major changes in the clinical curriculum giving more emphasis to education can be expected. Even in these schools, however, there is some opposition to close integration of basic science and clinical subjects. This arises partly from the view that such integration for the student is not necessarily the best way to achieve integration by the student. The opposition comes more strongly, however, from the pre-clinical teachers of basic science. This is understandable. Until less than 50 years ago, much of the pre-clinical teaching was done by clinicians. Since then it has been done by whole-time men who have spent the rest of their time in research, in contrast to their clinical colleagues who have remained engrossed in practical medicine and have had little time for scientific enquiry. A wide gulf has therefore arisen between these two groups of teachers, and they are separated from each other not only by their work but also by their attitude of mind. Some pre-clinical teachers naturally regard the doctor as a practical man, whose work is empirical and not very scientific. They feel that they should give to medical students factual data relevant to the practice of medicine, and then despatch them to a vocational and technical apprenticeship in clinical work. Other pre-clinical teachers believe that the practice of medicine must henceforth be scientific if it is to be good, and that therefore doctors must be educated as

scientists. Remembering their own student days, however, they do not believe that such an education can be given by our clinical teachers, and therefore believe that it can be given only in the preclinical block of studies, and want this extended accordingly. Almost all clinicians are in favour of its being reduced.

At the present time in every department, clinical and pre-clinical, and in every school there is a lively interest in medical education, and a desire to make innovations, adaptations and even experiments. These are carried into effect, however, mainly within departmental limits, and these limits tend to be more sharply defined by our system of examinations. New methods of teaching are tried, and fresh orientations to old subjects are presented. Small-group discussions are widely favoured and the didactic lecture is somewhat unpopular. Departments experiment with the use of audio-visual aids, though these experiments are not often evaluated. There have been efforts also to increase the degree to which students can participate in the care of patients, so as to counteract the loss of incentive to learning which is inevitable when they are reduced to the role of observer.

Naturally such changes, carried out with an enthusiasm for the new which is noticeably lacking in the councils of medical schools, result in each department's feeling that its share of the students' time is too small. Nevertheless, new departments are formed, more often perhaps in the hospital than in the medical school. Usually they do get access to students, but this is mostly limited and isolated rather than in conjunction with the teaching of pre-existing departments. Thus in all the provincial medical schools there is now a department of preventive or social medicine, and some of these are able to offer combined teaching with a hospital unit in clinical medicine. In many schools also, there has been some enthusiasm for spreading the experience of the student beyond the walls of the hospital. Arrangements of various kinds have been made, ranging from university general practice units on the one hand to sending students out to live with a general practitioner on the other.

Experiment is possible within most departments (and there are some examples of coordination between departments, such as anatomy and physiology or bacteriology and morbid anatomy), and additions to the curriculum still continue. It is not easy, however, to bring about more integration of studies, greater stimulation of the individual student's interest in his work as a whole, or more guidance to him in his learning, by educational devices which can be attached as extras to the curriculum. The one possibility, of course, is the provision of a tutorial system. Several schools have made efforts in this direction, and two have had such a system in operation for several years. The difficulty lies less in finding the necessary time than in finding suitable tutors. These have to be drawn mostly from men in the resident grade, and they are naturally more concerned with their own postgraduate training and future than with the learning processes and educational development of the individual undergraduates in their charge.

It is clear that, although there are many obstacles to improvement of medical education in Great Britain today, most of the ingredients for successful improvement are to hand. It is even possible that we have in our traditional teaching device ("the firm"), if we can but adapt it to modern conditions, the most satisfactory method of combining education with training, which is the big problem of medical education. All that is lacking is a concerted effort in each medical school to bring about overall, instead of piecemeal, changes. The absence of this effort is largely due to the absence of appreciation of medical education as a whole, of its existence as a subject to be thought about, studied and enquired into. This is natural enough in a country in which the pattern of medical care has inevitably led to the maximal degree of the narrowest specialization—but it is unfortunate and has to be overcome.

The obvious answer lies in providing a means whereby medical education can be studied and can be visualized as a whole, by those many people who are interested in it. For this reason there was founded in 1957 the Association for the Study of Medical Education, membership of which is open both to individuals and to medical schools.* The Association has no executive function at all, and it is to be expected, therefore, that its meetings on topics concerning medical education will be free from the inhibitions which such authority can bring. It aims to provide a means of communication between medical schools, and in Britain virtually no such means has ever existed hitherto. It aims also to maintain a bureau where information about medical education can be received, stored and made available. Above all, it aims to encourage, promote or conduct research into matters concerned with medical education.

It may well be that this Association will be able not merely to bring medical education into focus as a whole, but also to subject it to that scientific appraisal without which it can make no real progress. If these things are done, then rapid changes can be expected in the curriculum in Britain and, more important, in the attitude of mind of the teachers of medicine, of which the curriculum at any one time is largely a reflection. Because the organization of the profession has always been so different in Britain from that in most other countries, with consequent differences in the tradition of training, it is probable that major changes in the educational field here will well repay study by those elsewhere who are particularly concerned with the problems of medical education which we all face.

*All Canadian medical schools have been invited to join as corporate members.

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THE PRESENT MEDICAL CURRICULUM AS PREPARATION FOR GENERAL PRACTICE

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A RECENT GRADUATE of my own school gave up general practice after one year, saying, "I felt I was cheating people all the time." How did a medical school turn out an otherwise intelligent doctor with so poor a notion of general practice that he was unable to function? Why did he consider it of so little value? Were his patients' illnesses too difficult? or were they too prosaic?

We leave our medical schools with a special approach to every illness, each approach authorized and where applicable scientific, but the general practitioner does not submit to all the separate disciplines, ever increasing in number and complexity. What, then, is general practice and what is its justification?

GENERAL PRACTICE

General practice is characterized by two features: first, the doctor is available regardless of the age of the patient or the kind of illness (or other distress), or the time of its onset; second, he is continuously available, not only through the whole course of an illness (even if a specialist is called in) but through a lifetime. General practice is a unique type of relationship between doctor and patient. Contrast this with a consultant practice limited to problems in a certain field and providing episodic care. More subtly different is the specialist as we know him, often working in a group divided into departments. He provides a degree of continuity of care, just as the internist does who manages a patient's peptic ulcer and later his myocardial infarction, or the obstetrician who delivers his patient a few times and later, in his dual role as gynæcologist, repairs the damage. But picture the dilemma of a man with influenza: should he call his wife's obstetrician, his children's pædiatrician or the surgeon who removed his appendix? (Such a man told me, for he really exists, that he didn't like to bother them with a disease that would not interest them. He sincerely believed, in any case, that doctors no longer make calls.) What kind of medical care is he getting? Most general practitioners are willing to look after the husbands of their obstetrical cases, and the fathers of their feeding problems.

But general practice means more than a willingness to make house calls and to attend to casual visitors to the office. I know practitioners who have analyzed their cases and found that they have managed 80 to 90% of all the illnesses confronting them. It results in a maximum economy of the patient's time when a post-natal visit, diet adjustment, immunization, and an enquiry about a sick relative can be accomplished at one time. On the other hand, this intimacy with the family puts the general practitioner in a unique position to know the tenor of his patient's life and to appreciate his emotional stability. I used to think that the most important knowledge derived from this intimacy was a detailed knowledge of the organic ailments of the family, but I have seen enough to realize that a history of organic disease is readily elicited by a doctor who is not an intimate, and I now know that the professional advantage of intimacy is a familiarity with the pattern of a family's complaints. One can detect in a complaint a familial psychosomatic refrain, or anticipate in the patients of tougher emotional fibre a probable organic significance. That is, the general practitioner, because of his knowledge of his patient's "norm", is in a position to recognize earlier and, to a degree, more easily the beginning of significant disease. In general, it may be said that the value of general practice derives from the basic truth that man is indivisible.

THE CURRICULUM

A medical curriculum has three aspects: (1) lectures about current medical knowledge; (2) clinical experience in dealing with patients and utilizing medical knowledge; and (3) professional indoctrination in the nature of medicine, the place of research, the role of the specialist, medical ethics, legal medicine, etc.

The lectures are a survey of the knowledge of disease. These are given by specialists, as they should be, when the specialist has a more profound understanding of a disease. But the approach of the specialist is implicit in what he teaches; there is emphasis on complexity, inevitable attention to rarities, and over the whole of medicine a multiplicity of aspects. One would never guess that one life-size doctor could take care of 80 to 90% of illness.

Clinical work follows the same pattern; patients are classified according to disease, whether in the wards or in the outpatient department. The student learns to approach them as cardiac, urological or orthopædic cases, rather than as people in a human setting. Clinical interest is focused on rarities for the sake of knowledge; on the other hand the student has little experience in which the patient's interest is really put first. (Granted that this comes later, when, as an intern, there is some responsibility to the individual patient.)

This brings me to an intangible and yet critical aspect of the current preparation of graduates; a medical school on the one hand clatters with the importance of appointments and higher degrees, and on the other hand is redolent of a derogatory attitude to general practice. It is an academic institution emphasizing erudition, and honouring, by degrees, the ascent of the academic ladder. Resulting from this is a notion of failure in anyone who does not enter the competition for

honours. One hears of doctors "drifting into general practice", whereas, in truth, the doctor drifts more readily into specialization, a choice accepted without question within the walls of the teaching system, and a postponement of the awful decision to go into practice. The pressure to specialize is felt most acutely within three short months of leaving medical school. The intern is swept up in the hubbub of October applications for a senior internship in one of the specialties, or else is left to an unknown fate in general practice for which there are no application forms.

I do not wish to detract from academic medicine, whether in the basic sciences or in clinical medicine itself, for it is the perpetual source of medical progress. However, the great emphasis on the academic side of medicine distracts the student's interest from the practical side. How often lectures and clinics emphasize the importance of referring such and such a complication to a specialist, or the importance of considering this or that rarity in a differential diagnosis (not that the student is spared the details of the specialist's management of the complication, or a discourse on a syndrome he may count himself unlucky, and usually his patient too, if he sees once in his whole career). But more detracting to general practice than the overwhelmingly academic atmosphere are the numerous innuendoes: "this patient, first seen by his family doctor" has usually been misdiagnosed, mismanaged, and overtreated or undertreated, until his reprieve when he finally reaches certified safe hands. Let no one deny that mistakes are made in general practice (that is why the medical school should set a standard), and let no one deny that the practitioner can get into deep and troubled waters. But these cases could be used to two good effects: firstly, they are valuable academic case material illustrating the difficult complication or the rare disease, and secondly, they also illustrate the accepted mode of medical practice in which the practitioner, having used up the resources with which he successfully manages the bulk of his cases, continues to serve his patient by seeing to it that specialized consultation or care is obtained and subsequently utilized. The essence of the innuendoes derogatory to general practice is the often-repeated statement, "medicine is now too vast and too complex for any one man to master", undeniable when your "medicine" is the totality of medical knowledge, that is academic medicine, but a statistical misrepresentation when seen from the practical viewpoint that common illnesses are common. This platitude denies the usefulness and value of knowledge of 80 to 90% of all medicine.

THE SOLUTION

A few general conclusions are inevitable. I have already touched on the attitude to general practice indoctrinated in the medical school and how this might be altered. But the essential requirement of the present medical curriculum is exposure to general practice.

A preceptorship of three months (which need not be full time) would give the student an opportunity to see what a general practitioner does with his patients, to sense what his work means to his patients and to himself, and to begin to appreciate the continuity of it all. Time would bring back to the school specialists who, by virtue of this preceptorship, have at least as much understanding of general practice as they have of the specialties other than their own, better suiting them to incorporate professional indoctrination into their lectures.

It is now the practice of several medical schools to make available "rural preceptorships", whose purpose is to promote medical care in rural areas rather than to promote general practice as such (although this does result to some extent, as a by-product). The selection of preceptors in the urban area in which the medical school is located would permit closer supervision by the school and would also facilitate inclusion of a three-month part-time preceptorship in the curriculum. This would compare with and complement the clinical clerkships in the various specialties. A junior internship which included a rotation to a rural hospital would round out the impression of general practice, just as the present rotation does for the specialties, giving the graduate an intelligent basis for selecting his field of practice.

The medical schools must cooperate with the College of General Practice and particularly must face the medico-political consequences of giving a few general practitioners teaching positions (the schools have managed to survive the consequences of selecting only some of the specialists for university positions!). These teachers of general practice would have three functions: (1) to demonstrate to all medical students the nature of general practice, and its place in medicine, a matter of importance for future hospital administrator, health official, consultant and general practitioner alike; (2) to balance the academic and highly specialized side of medicine with the practical, making the school less austere and more realistic a centre for general practice refresher courses; and (3) to guide those students who ignore the pressure to specialize and are prepared to do general practice.

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CHANGE OF ADDRESS

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FROM THE GALLERY
A G.P. LOOKS BACK AT HIS EDUCATION

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THE CONVICTION that one should never criticize the individual, and never cease from criticizing the systems which individuals create, prompts the comments which follow. These represent one opinion on medical education as seen from the vantage point of some years in practice. They do not purport to be the views of an authority on medical education; rather to the contrary, they are simply the expression of how one medical graduate, picked at random, feels about his undergraduate training.

As a medical student taking up studies after the last war, the writer formed certain impressions of his training which seemed then to be both pertinent and reasonable. Upon making some of these known at the time, he was advised by those in command to be patient, to wait until he had been in practice for some time before forming value judgments on a system which had been designed for his own eventual good. With a due sense of expectancy he has done just this, and from where he now sits, after some years in practice, the original impressions seem to remain both sensible and valid.

He feels now as then that the overall training in the art and science of medicine was excellent. Pre-medical education within the faculty of medicine seemed to be in itself a mistake since one was neither long-haired nor short, neither a student of the arts nor a student of medicine. The interlude was nonetheless a happy one, splashing around as one did in the small pools of humanism before striking forth into the sea of medicine proper.

The concept underlying pre-medical education seemed well-intentioned and sound, a valiant effort to maintain a sense of human nobility in the face of a society which largely ignored it. If the culture of a modern, industrial, mass-educated nation is not appreciably influenced by giving medical students a smattering of the arts, this is not to say that the idea is not a good one. Those schools which insist upon a B.A. as an entrance requirement to the faculty of medicine would seem to have the edge on those schools which do not, if for no other reason than that those students who fail in medicine early have at least something to show for their efforts up to that point.

Instruction in the basic sciences and, later, in the department of medicine left little to be desired. This can be said in all honesty, notwithstanding the fact that at the time much of this work appeared to be redundant. Regardless of his future plans, no undergraduate can receive too much training in the department of medicine, particularly when that training is of high quality.

Unfortunately, the same overall view could not be extended to other sections of training, the department of surgery providing possibly the best example in the opposite field. No matter where one stood in the field of undergraduate training, the teaching of surgery was poor. This was especially true for anyone aiming towards general practice. It was deficient in quality, poor in technique, and above all lacking in relevancy. As medical students being instructed in surgery we stood and we sat, we sat and we stood, and we learned everything except what we needed to know. We were shown the most wonderful things, flights into the rare upper levels of surgery, when all we really wanted to do was to keep our feet on the ground. We were simple, impressionable creatures being trained for the job we had to do, and we wanted to learn the things we needed to know to do that job. We were primarily interested in the common conditions we would see most often and which, by simple practical surgery, we could correct by ourselves. Then, and only then, did we feel it necessary to be familiarized with those rare conditions requiring the major surgery we would never do ourselves but which, for the purposes of thorough training, we should at least know about. But we got our surgery the other way round.

What is more, we got our surgery as teaching rather than as learning. We stood and we watched, we sat and we watched, we even went to sleep and still we watched, but we never got to do it for ourselves. Throughout his training as a medical student the writer helped to reduce one fracture. As a junior intern at a teaching hospital he was fortunate in being allowed to reduce yet another fracture, and this one all by himself. Armed with this practical surgical training in the field of fractures, he set out into private practice. He was at once faced with the variety of fractures common to any general practice, and, assisted by the almost infinite capacity of nature to look after herself, he has over the course of the years become passably competent in the handling of these common fractures. As with fractures, so with most minor surgical procedures: we got as far as to see them done but never to do them ourselves.

The reasons for this peculiar state of affairs were plain to us even as medical students. We were taught our surgery by surgeons rather than by competent general practitioners who knew what general practice was all about. Intensive postgraduate training in any one subject makes a man proficient in that subject, but it provides him with no singular ability to teach that subject, nor does it make him capable of teaching a subject only distantly related to his own. The attitude on the part of many specialists that general practice was something of a minor league designed to feed the major, or specialist, league does no service to the concept of general practice. It

seemed to us strange at the time that we received so little training directed to the avowed goal of our studies, and particularly so little teaching by men who practised that subject themselves.

In the second place, it was obvious that the amount of teaching material in surgery was limited. Since it was also plain that surgical interns were almost as hungry for work as we were, it seemed apparent that the teaching of surgery to undergraduate and postgraduate students within the framework of the same institution was impossible. It was impossible for the simple reason that the undergraduate student in surgery took low place to the junior intern in surgery, himself waiting upon the senior intern in surgery, who was waiting upon the resident in surgery, and so on up to the top where the weather was fine. Where we were it was damp and dark and very, very boring. Taking all these factors into consideration, it seemed to us that our surgical training suffered above all else from a lack of definition of what precisely the department of surgery was attempting to do at the undergraduate level.

It seemed apparent that it could either train medical students to fill the position they would assume across the country (and not in the cities alone), or it could train medical students as possible future surgeons. It did not seem likely that it could do both, at least not as presently organized, when from all appearances it does neither.

It might seem unfair to single out for criticism one department above others. In point of fact the average general practitioner commencing practice today is inadequately trained not only in surgery, but in practical obstetrics, practical gynæcology, and ear, nose and throat work, to say nothing of medical economics, medical politics, public relations and other fields not the primary responsibility of the medical school. But it was in the training of surgery that the deficiency was most vivid and most extensive. If the breakdown of the P.S.I. figures for Ontario shows anything, it shows that the bulk of surgery in that province is done by general practitioners. So far as is known the standard of surgical care in Ontario is as high as it is anywhere in Canada, and if that standard is to be maintained, the need for certain basic changes in the teaching of surgery to undergraduates appears overdue.

It is to be hoped that any changes in this direction will not consist merely in lengthening the course of studies or of internship. This has seemed to be the common response evoked on many sides by the fact that the general practitioner is not thoroughly prepared for practice when he enters it. If he has not been sufficiently trained in seven or eight years, the solution seems to be to urge him to seek a residency for general practice. So far as one can judge from the sidelines, there appears to have been little written on the possibility of shortening and improving the course already established. By pruning out some of the deadwood, and by giving students a greater responsibility in their own education, surely a certain amount of valuable time could be saved; and by doing away altogether with the somewhat redundant year of rotating internship the saving in time could be appreciable. If the truth be known, any intelligent intern can assimilate in three months the work which he is now required to take a year to accomplish; if ways and means could be sought within a more flexible system to integrate the work of a junior intern into the final two years of medicine, the student would be manifestly better trained by applying the work as he learned it.

What appears to have been a successful experiment in the training of nurses, with a shorter course and with more responsibility in the final year, might point the way to similar changes in medical education. It is certainly true that senior medical students now spend a great deal of their time standing around watching the procedures they could well do themselves at an earlier stage of their training.

As stated at the first, the remarks made here presume no authority other than that of individual opinion. They do not assume that changes in the medical curriculum are not under constant study, neither do they reflect the thought that any of these changes can be made easily. They recognize that the vessel of medical education has weathered many seas, and that it is not from chance alone that in Canada it should be so sturdy. It is only the desire to make it yet more sturdy which prompts them, by applying to medical education the truth inherent in Lister's dictum, that the only good rule for a doctor to follow is to put himself in his patient's position.

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FITTING THE FAMILY DOCTOR FOR HIS TASK

"In so far as we restrict our conception of medical education to the production of the 'safe doctor', and in so far as we define the 'safe doctor' as one who can recognize and refer the right patient to the right specialist, we shall fail in our task. We shall fail to fit the family doctor to provide real medical care for that majority of patients who either need not or should not be referred to specialists, or for those patients for whom much remains to be done to restore them to health after the specialist has made his brief, albeit sometimes dramatic, onslaught upon their illness in a manner which often suggests that to him the illness is more real than the patient."—G. R. Hargreaves: Psychiatry and the Public Health, Oxford University Press, Toronto, 1958, p. 92.

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UNDERGRADUATE TRAINING IN PSYCHOLOGICAL MEDICINE*

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PROBLEMS presented by patients suffering from "mental ill-health" are taking up increasing amounts of interest, time and energy on the part of every physician. Whether he is in general practice or in a specialty, he finds that a great many people coming to him with complaints of illness have psychological, rather than physical, difficulties. Such patients may be considered as divided into three general groupings: (1) those who are suffering from an illness of neurotic or psychotic kind; (2) those who have anatomical lesions or physiological disturbance of function but in whom the etiological factors are emotional rather than physical, that is, the psychosomatic group; (3) those people who, while not suffering from either neurotic or psychosomatic disorders, have serious disturbances in their lives and are carrying on with difficulty and with much less satisfaction than they should be gaining.

When it is considered that these three groups of patients form a large proportion of medical practice, it is fair to say that medical education to date has given insufficient prominence to the training which students require in order to care adequately for these patients. It is true that there has been considerable improvement in this regard in the past 10 years. This progress is most noticeable when the number of hours allotted to the teaching of psychiatry in 1948 is compared to those in 1958. In some cases the earlier figure has been doubled, or even trebled, but one wonders whether the advance in learning on the part of the student has been in the same proportion. In other words, the amount of time available, although important, is not the only significant factor in the learning situation. How does a student learn about the extremely complex combinations of events, the end result of which may be mental ill-health in any of the varieties mentioned above? How does he learn the attitudes and skills which will enable him to deal with them?

An essential prerequisite to the acquisition of knowledge about mental ill-health is a "basic" understanding of psychological and social phenomena, analogous to the "basic" sciences of the first two years of the medical course. Some students commence their professional training with a good background of psychology, sociology and anthropology, but they are in the minority. Teachers of psychiatry in the clinical years observe a woeful ignorance on the part of most medical students of the basic concepts necessary to the understanding of human behaviour and psychological medicine. This suggests that a practical step might be taken in the direction of provision of more adequate courses of this kind in the pre-medical years, followed up, in the pre-clinical years, by application of this knowledge to the field of individual mental health, and, in the clinical years, by relating it to clinical problems.

Until recently, the "course in psychiatry" in most medical schools concentrated on the first of the three groups mentioned above. Many hours have been spent in presenting the nature of nervous and mental illness, its manifestations in various disease categories, and methods of treatment. In this regard, the psychiatric educator faces some challenging problems in his efforts to guide the learning of students. One of these has to do with the unsatisfactory state of psychiatric nosology. There is some foundation for the popular belief that if the same case is presented successively to five psychiatrists, each may give a different diagnosis. This is less serious than would at first appear, in view of the concept of individual treatment indicated below, but there is no denying the consequent confusion in the student's thinking. The process of arriving at a diagnosis is different from the corresponding process in other medical specialties. In internal medicine, for instance, the diagnostic process is mainly one of *exclusion*, the items in the list of differential diagnoses being ruled out one by one. When "red herrings" appear they are recognized as such and dealt with appropriately. In terms of logic such diagnosis is a process of deduction, and that by which prognosis in a particular case is arrived at, one of induction. In psychiatric diagnosis, on the other hand, the final formulation must *include* the personality of the patient, his past and present patterns of total reaction, his goals, expectations, standards and attitudes, as well as the abnormal signs and symptoms. Hence the length and detail of the biographical material in a psychiatric history.

Most graduates feel that they are not well equipped to cope with the psychoneurotic illnesses which they meet in subsequent practice. One of the great difficulties is in the establishment of a reasonable goal of therapy in a specific case. How much can this person be helped? How much can I help her? Can I expect her to improve under treatment or is she suffering from a chronic illness, with symptomatic treatment remaining as the best practical approach? Should I refer her for specialist opinion? The doctor's lack of confidence in answering such questions often goes on to anxiety and then to annoyance and hostility directed at both the patient and himself. Prognosis is difficult because inductive reasoning is not helpful, each case being an individual problem. The "natural history of a disease", so important in physical diagnosis and prognosis, is rarely applicable.

There are differences also between the approach to *treatment* of "physical" illnesses on the one hand, and of "psychological" illnesses on the other. An examination paper may include the question "Discuss the treatment of pernicious anæmia", with the

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well-founded assumption that there is a valid method of treatment irrespective of what particular individual has the condition or what doctor is carrying out therapy. The same is not true for hysteria, for instance, in spite of the attempts of some textbooks to make it so. The treatment program will vary greatly depending on what kind of person has the condition and *what kind of person the therapist is.* Suitable training then must include some consideration by the student of his own personality, how he tends to be affected by patients, and how patients react to him.

Compared to the neurotic and psychotic group, the psychosomatic group receives less attention by teachers. These patients seem to fall between the medical and psychiatric services. The patient suffering from a proven and obvious "organic" illness often resents the implication that his somatic disease may have psychological origins and strenuously resists referral to a psychiatric service. He often finds some reflection of his attitude in his doctor, who tends to treat the presenting physical disturbance and pay scant attention to the underlying emotional causes, which may well require attention. This situation is unfortunate, since such patients frequently respond in a most satisfactory way to a combined approach directed at both the physiological and psychological aspects of their illness. Lectures in medicine and in medical therapeutics usually confine their references to psychosomatic illness to treatment of the physical disturbance, and in psychiatry this subject is often neglected, though it is difficult to see why, in view of the high incidence of such disorders.

The third group are considered by many physicians not to constitute a medical responsibility at all. When there is a plain indication for counselling, it may be suggested to the patient that he "talk things over" with his minister, his lawyer, a social worker, or some other non-medical person. This may be appropriate in some cases but there are many others in which the patient feels that it is the doctor and no one else whose advice is really valuable and who could help him if he would only take the time and trouble to do so. Whether or not such problems are worthy of the doctor's time is a decision which is made by each individual doctor. A good many feel that they would like to be helpful in this way but, if so, they have no training worth mentioning which would help them to relate in a positive way to their patients, so that success or failure in the venture must depend entirely on the doctor's own personality and his life experience as a social being. Under this heading should be included the inevitable "reaction to illness" and, here, it would be the rare physician who would deny that he has any responsibility. One has only to experience the increase in confidence and decrease in anxiety on the part of a patient who has just heard his wise doctor's words, to realize that when these supportive words are not spoken a serious gap has appeared in any therapeutic program.

Medical students are quick to appreciate their own capacities in relating in a supportive way to patients, and benefit greatly from guidance and encouragement in their early attempts, fraught as such experiences frequently are with lack of assurance. Time spent in such instruction pays large dividends in the student's subsequent confidence in his relationship to those to whom he ministers.

We turn now to consideration of the various methods of training which may be applicable.

1. There is general agreement that the formal didactic lecture, whatever its value in other areas of instruction, has limited use in the training of medical students in the recognition and treatment of mental ill-health. It is probably most useful in the presentation of the material included in the basic sciences of psychological medicine referred to above, that is, in the pre-medical and preclinical years.

2. Clinical demonstrations to large groups of students are usually interesting if the demonstrator has spent sufficient time in preparation. The phenomenology of psychological illness can be well presented in this way with economy of time, but the insights and skills by which the clinician has arrived at the concepts which he presents to the students are not well communicated by this method.

3. A method much more likely to produce the desired results is that in which small groups of students (four to six) meet with an experienced clinician for a sufficient number of times and at sufficiently close intervals for the working attitudes and some of the skills of the teacher to be absorbed by the students. This process of communication works in ways which are largely subconscious and has many of the aspects of the classical transference situation inherent within it. While this is probably the best method yet mentioned, its success is not likely to be well measured by written or oral examination procedures. Moreover, what the student has learned by this method can hardly be put into words in spite of its importance and relevance, and unless he has had the advantage of earlier lectures and demonstrations, he remains at a loss for "scientific facts" and feels that he still does not "know" anything which he can use to answer examination questions However, in the years to come he will probably discover that, because of this experience in a small group with a permissive teacher, he has in fact acquired an attitude which includes a sympathetic and confident bearing towards those of his patients who have psychological difficulties as well as towards the physically ill.

4. The best way to learn about people, of course, is to study people. For the medical student this means frequently repeated opportunities actually to talk to and get to know individual patients. There is no better way to increase his confidence in himself and therefore his ability to be helpful than to expose him over and over again to the satisfactions, as well as the frustrations, of really

attempting to understand another person's situation and reaction. Every medical student already has a good deal of skill in this social kind of relationship; otherwise he would not have got as far as he has in the educational field. It remains the most acute problem which faces the psychiatric teacher to demonstrate this personal skill to the student himself, to develop it, and to convince him that it is an important asset in his treatment armamentarium. It is a matter of observation that the more senior the student, whether in medical training or in other disciplines, the more difficulty there is in getting him to relate helpfully to patients. The assumption is that this difficulty arises in some way as an undesirable side effect of the training experience through which he is passing. In medical school he is confronted from morning to night by facts that he does not know but has to learn, and it is not surprising that he gets the strong impression that successful treatment is dependent upon knowledge of a great many facts, which knowledge he does not possess on admission to the school but which he hopes to acquire en route through the course. Since he is learning in a different way about the psychological and social factors in the lives of people, he may be forgiven for assuming that he is less able to "treat" such patients, and his training in psychiatry must take this factor into account.

It is suggested that an ideal program of training in mental health would include lectures on the basic sciences of psychological medicine, as well as on psychiatric diagnoses as such, demonstration of cases to illustrate phenomena, small group discussions in which there would be opportunity to discuss personal reactions of the students, and, most important, ample time for the student to try out his own techniques of dealing with patients. Such a program requires time in each year of the pre-medical and medical course and well-trained, insightful teachers who are themselves prepared to relate to the students in a way which will promote learning.

Certain it is that many doctors intuitively utilize their own strength and experience in treating "the whole man" with success. It is sometimes stated that this skill is something which goes along with being a good doctor. The content and method here outlined for training in mental health is meant to indicate that the skilful care of a person suffering from the effects of a "breakdown in living" includes far more than being a good doctor, a term which suggests that ability to treat psychological ill-health is an automatic by-product of the rest of medical education. Experience has shown that this view is overly optimistic. Medical schools are now accepting the challenge and opportunity of devising ways and means of teaching the distinct and very important attitudes and skills applicable to personal illness. Such training constitutes an essential part of the preparation which every doctor requires to care for his fellow man.

THE MEDICAL COUNCIL EXAMINATION.

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IT IS EMPHASIZED that this article in no wise reflects any official policy of the Medical Council of Canada, but simply reflects an accumulation of data from some studies arising from the work of a special committee of which the author was a member. This special committee was formed by the Medical Council of Canada in 1956, and is still active. It is reasonable to assume that certain proposals will be debated in the Medical Council of Canada this coming year regarding examination structure, but it will be readily understood that these matters cannot be discussed here at this time. The real purpose of this paper is to examine the relative merits of different points of thinking that have been submitted over a period of time.

The Medical Council of Canada has been setting examinations for over 40 years, and over that period of time the provinces at different times have chosen to accept these standards as a qualification for practice within their respective jurisdictions. Broadly speaking, at the present time all provinces accept this qualification but many have additional requirements for qualification for registration. The subjects for examination at the beginning were five in number: medicine, surgery, obstetrics and gynæcology, public health and preventive medicine, and pathology. Written, oral and clinical examinations were required for medicine and surgery, and written and oral for obstetrics and gynæcology, public health and preventive medicine, and pathology. A few years ago, the subject of pathology was dropped from this schedule of examinations. There were some who felt that this was an unwise step. The thinking that governed this decision was based on the fact that to a reasonable degree the candidate's knowledge of pathology could be assessed in the examinations for clinical subjects.

From time to time, representations have been made from different sections of the medical profession in Canada to the effect that the time has arrived when this examination schedule should be overhauled. The motivation of these suggestions is based, I believe, upon the following points of argument.

1. There has been no fundamental change in the examination structure since the Medical Council began examinations nearly 50 years ago.

2. The advances in medical science have been nothing short of phenomenal in that period, and there are those who believe that the present examination structure fails to give a proper appraisal of the candidate's knowledge in the light of this evolution in medical knowledge in the last 30 years.

3. Many new compartments in medical practice have been identifiable in the last several years, and the present examination system fails to explore the candidate's knowledge in these important fields. Two of these relatively new fields are pædiatrics and psychiatry.

4. Because Canada is such a far-flung country, practitioners of medicine in the hinterland must have a broad and sound knowledge of the whole field of medicine, in view of the distance of many communities from the larger medical centres. In other words, it is argued that a general practitioner in the Northwest Territories might well have to be a much more resourceful and broadly based physician and surgeon than one practising in a large city where every technical facility is available.

There can be little doubt that much virtue attends these arguments, but on the other side, one must keep in mind that the basic concept of these examinations is to assess as accurately as possible a candidate's knowledge from the academic aspect and to unite this with a reasonable evaluation of his fitness to practise. There are some who think that the examinations are somewhat too academic. Be that as it may, the basic aim of these examinations is to evaluate the candidate's fitness to practise medicine, keeping at all times the public good before us as the primary requisite.

Over 25 years ago in Canada, the conviction that higher qualifications should be laid down relative to competency in the specialized fields of medicine became a reality in the foundation of the Royal College of Physicians and Surgeons. This body, operating under a federal charter, has rendered distinguished service, and one must keep in mind that evaluation of knowledge at the level of the Medical Council of Canada was never intended to provide standards for specialized knowledge. I am sure we all agree that the basic function of the Medical Council of Canada is to provide a sure and certain baseline, below which no standard should fall in the various subjects of examination presently used. In addition it should competently measure a candidate's ability to practise general medicine as we understand it.

It is quite possible that the time has arrived when some additional subject or subjects can be seriously considered for addition to the schedule of Council examinations. The danger, of course, resides in failure to know where to draw the line. It can be easily understood how readily a path could lead into new avenues of activity which could multiply if not properly controlled.

This eventually could increase substantially the problems arising out of creation of such precedents. For example, there are specialty groups today in the fields of surgery and medicine with excellent arguments to support the addition of an examination paper in their respective fields. It requires little imagination to see an increasing series of subjects being recommended for the Council examinations, whereas among the educators in our universities, so far as can be ascertained, there is a wholesome desire to limit needless examination procedure as much as possible.

If we accept the broad principle of the purpose of the Council examinations, I think it will be readily seen that a firm, middle of the road position should be maintained. Addition of subjects to the schedule should be undertaken only after thorough study of all factors concerned. This view has support from experience, which has shown that these compartments in the clinical fields can be adequately covered by the oral examiners at that time. These examiners should be able to assess with reasonable accuracy the candidate's ability in the broader sense. This indeed has been done for a substantial period of time. It is felt in responsible quarters that the method of examination presently employed is providing most satisfactory results. Should consideration be given in the foreseeable future to adding to the subjects for examination, there is strong reason to believe that any particular subject in question should bear a broad and general relationship to the general practice of medicine.

In conclusion, it is probably sound reasoning to indicate that the examination structure of the Council should be reviewed, and indeed this is being done. Any additions should be undertaken only after considerable study and consultation with the universities and the licensing bodies of the various provinces. I repeat that we should keep in mind the primary purpose of these examinations, namely, to evaluate a candidate's fitness to enter general practice as we understand it. These examinations are in no circumstances intended for assessment of knowledge of specialists. If these features are borne in mind, it may be felt that some changes are due but that it would be most unwise, at this time, to add a series of subjects covering the smaller compartments in the fields of medicine and surgery.

I should like to repeat again that the views expressed above do not necessarily reflect the policy of the Medical Council of Canada, though I am able to state that the Medical Council of Canada is keeping this situation under continuous review.

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DOCTORS, DRUGS AND DRUG PROMOTION*

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THE DEVELOPMENT and introduction of new therapeutic agents has followed a roughly exponential course over the past century, and as an inevitable result of such a process, the number of new agents introduced annually has now overwhelmed the average practising physician. This would be true even if only new chemical compounds were involved, and the problem is multiplied many times by mixtures and combinations. Each of these has its own trade name and tends to develop a vague but independent identity to which it rarely is entitled. The pharmaceutical industry has been responsible for the development and manufacture of many drugs which represent major therapeutic advances. Indeed, the advent of "wonder drugs" has tended to delude both the medical profession and the public into believing that any new product represents a modern miracle. Unfortunately, relatively few new products contribute substantially to medical progress.

Rapid introduction of large numbers of new agents and combinations, and frequent delays in the publication of full information regarding their properties and effects, have combined to produce a situation in which even the full-time pharmacologist is hard pressed to keep abreast of developments. For the busy practitioner the situation has become impossible, and a majority no longer attempt personally to evaluate the data on new agents even when it is available. There is an increasing tendency to try new agents simply on the basis of drug-house literature. The volume of this material has expanded tremendously since the end of the war. It ranges from a few words on a blotter to elaborate, profusely illustrated booklets, and includes thousands of pages annually in the standard medical journals. Because it has come to play a major role in disseminating information on new drugs, the material prepared and distributed by pharmaceutical manufacturers must be carefully evaluated, and evaluated as advertising.

It is clear that the medical profession plays a major role in determining types and volume of drug advertising. In the hard-headed world of business, the type of promotion employed is determined by the response obtained. Journal advertising, direct mailing, free samples, business gifts such as pens or notebooks and various forms of entertainment all have been shown to increase sales. Obviously, if any of these forms of promotion were not heeded by the profession, it would soon disappear. However, it appears that the physician, ostensibly endowed with scientific scepticism, is as susceptible to the huckster's art as is the general public. "Ethical" medical advertisements employ more technical terms than are used by the white-coated television "doctor" extolling the latest mouthwash, but the approach employed in most medical advertising is identical.

Occasional brochures produced by some manufacturers contain relatively complete and reliable surveys of available information regarding an agent or preparation. These may contain considerable valuable material, but they are more difficult and time-consuming to read and require considerably more thought on the part of the physician than do the shorter, gaudier bits of advertising. Consequently, they frequently are neglected by the profession. This has been recognized by advertising departments, and such "full coverage" brochures usually are sent only to a short, selected list of physicians.

A type of "prestige" advertising requires special mention. Pharmaceutical manufacturers frequently put out booklets on specific disease entities or sponsor closed-circuit television programs which are primarily educational in nature. Some of these are excellent in content and presentation and provide a real service. However, they must be distinguished sharply from promotional material. The fact that a booklet contains an informative and reliable article on liver disease does not mean that the advertisements enclosed in the same cover also are reliable.

All promotional material, irrespective of its form or source, must be evaluated with a full appreciation of the role of advertising and of advertising personnel in the contemporary pharmaceutical industry. In the advertising business it is freely recognized that a major purpose, if not the major purpose, of advertising is to create a demand where no real need exists. This clearly is a factor in much drug advertising. New preparations which effectively fill a real need require little promotion. The first sulfonamides, penicillin, cortisone and more recently chlorothiazide needed no advertising to create a demand. Most of the promotional material is not prepared by, or even seen before publication by medical personnel. It is prepared by highly specialized promotional departments, which in many instances represent the effective controlling influence in a pharmaceutical organization. These departments have available extensive analyses of all drug sales from which they evaluate sales trends and determine marketing policy.

The chemistry of medicinal compounds has advanced to the point where it generally is possible for a group of good chemists to produce on request a compound closely related to a known drug which has comparable activity and avoids patent infringement. This "me-too" agent usually does not have important advantages over its predecessor, and indeed may be somewhat inferior. It is necessary

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only that it be different and that it have comparable activity. The advertising department will "discover" and establish its superiority. A mixture may be even more easily and rapidly prepared to meet sales requirements. If the components previously have been cleared for sale, very little information regarding its therapeutic or toxic properties is required prior to marketing. Given adequate promotion, such a mixture can be highly profitable. Polypharmacy of this type represents a large step back towards the complex Latin prescriptions of a century ago, with the added disadvantage that the drug house rather than the physician determines the composition. These multiple-drug preparations expose patients to an increased number of toxic reactions, particularly of the sensitivity type. Multiple vitamin preparations containing folic acid are examples of mixtures which do serious harm, in this case by promoting neurological damage when given to persons with an unsuspected pernicious anæmia. Drug houses and physicians bear equal guilt in the use of such mixtures.

Certain therapeutic areas have become so large and lucrative that major drug houses rarely can afford to ignore them. A new product does not have to have any well-established advantages to take over 5 or 10% of the sales volume in many fields, and inasmuch as a number of types of therapeutic agents now have annual North American sales in excess of $50,000,000, it obviously is unnecessary for a company to await the development of a really superior product before entering the competition. This is particularly true because the subjective nature of responses and/or the chronicity of many disease processes which have attracted recent attention (atherosclerosis, rheumatoid arthritis, allergic reactions, mental disease, etc.) are such as to make it impossible to draw definitive conclusions regarding therapeutic efficacy until a drug has been in use for years. It is clear that substantial profits frequently can be realized from even a very inadequate product long before any clear evaluation of effectiveness is possible.

The above considerations emphasize the necessity of carefully scrutinizing promotional material. Unfortunately, there is no simple and reliable formula for sorting useful information from that which is useless or misleading. However, certain factors warrant special attention.

A major consideration in the adoption of any new product is toxicity. It is axiomatic that every drug has some toxicity, and the common promotional statement that a given product has "low toxicity" or has not produced this or that specific type of toxic reaction is of limited significance. It is much more important to know the types of toxicity which may occur. Advertisements rarely carry this information. Detail men may be asked for and sometimes are helpful in obtaining the desired data. However, this very useful information frequently is not included in the routine promotional material which they receive, and it may take them some time to obtain it. A related problem is presented by advertisements which include a considerable discussion of toxic reactions, but fail to mention those which may be of major concern. Current advertisements for new adrenal steroids are illustrative. They uniformly refer to decreased salt retention as an advantage, but say nothing about suppression of pituitary-adrenal function or decreased resistance to infection—major hazards in the use of any agent of this type. In the absence of definitive information, it usually is correct to assume that the new agent is at least as dangerous as its predecessors with respect to the unmentioned properties.

One always must be sceptical of claims regarding the low toxicity of new drugs. Reports of toxicity are slow to appear. This is accentuated by the current tendency to administer multiple agents simultaneously, which often makes it difficult to be sure which is responsible for a given reaction. In addition, reactions which involve induced sensitivity are not prominent until an agent has had a considerable period of widespread use. Chloramphenicol provides an example of a common pattern of toxicity reports. No clear cases of bone marrow damage due to this drug were reported for several years after its introduction. Finally, a few definite cases were reported, followed by a considerable number of reports, which brought about a sharp reduction in its use. More recently, this antibiotic has again been employed more extensively, but without a parallel increase in reports of toxicity. However, the paucity of published reports of toxic reactions cannot be taken as reliable evidence that the drug has changed or even that physicians have become more adept in its use. It may be simply an expression of the well-known fact that observers are disinclined to publish reports of additional cases of a well-known toxic reaction.

A favourite advertising statement which must be interpreted with caution is that a new drug or preparation is "more potent" than its predecessors. Unfortunately, the term "potency" appears to have developed almost mystic connotations of effectiveness, of ability to do things which a less potent drug cannot accomplish. In advertisements it is meant to suggest therapeutic superiority where the manufacturer cannot make this claim directly. "Potency" has no such implications. It simply refers to the dose required to produce a given response. Except where previous preparations were too bulky to be easily administered, potency *per se* is of little significance. A recent advertisement for a new steroid stated that it had "enhanced potency without corresponding increase in side reactions in therapeutic doses". The enhanced potency means simply that the therapeutic doses are reduced, and this statement should properly read "same therapeutic effects, same toxic reactions". One suspects that this is not the connotation intended, or how the statement actually was read by the majority of recipients.

Advertisements which make frequent references to published studies pose special problems. They are definitely superior to those without references because they do provide the physician with a basis for checking on the statements made. However, the presence of references does not guarantee the validity of generalizations made from them. A thorough check for reliability requires access to reasonable library facilities and considerable work. However, simple attention to the journals quoted may provide considerable information. Anyone even moderately acquainted with the medical literature is aware of the fact that studies published in some journals provide much more reliable information on the average than do those published in others. Indeed, some journals have become so uncritical of the material which they publish that they are regularly utilized for the publication of "studies" which are purely promotional. A good journal does not necessarily assure good work, but it considerably increases the chances of reliability.

Selection of references is an obvious method of obtaining unjustifiably favourable opinions, as is the quotation of phrases or sentences out of context. The former is the more difficult to detect and may not be obvious except to one thoroughly familiar with the literature on the subject in question. In evaluating papers quoted in drug promotion, it is very important to note doses and dosage schedules. For example, the full significance of a recent promotional effort, which provided references to both efficacy and lack of toxicity, was not apparent until it was noted that the doses used in studies quoted to demonstrate lack of toxicity were considerably lower than those used to substantiate efficacy.

Clues to the real significance of the references quoted may sometimes be found in the advertisement itself. One advertisement extolling the merits of a new nitrite "coronary dilator" contained essentially the following points, each with references. (1) Many clinical observations have demonstrated nitroglycerin to be the most consistently useful agent in angina pectoris. (2) An agent with comparable activity but with a longer duration of action would represent a real advance in the treatment of this condition. (3) Our nitrite has a considerably longer vasodilator action than does nitroglycerin. Therefore, it is the agent of choice in the treatment of angina pectoris. The first two points were documented by references to well-known authorities, the third by an obscure publication showing that the drug in question produced a somewhat more prolonged hypotension in anæsthetized cats. Although a casual glance at the list of references would indicate substantial authoritative backing for the claim that the new agent represented a major advance in the therapy of angina pectoris, more careful scrutiny of the references presented failed to reveal any evidence that the drug in question had ever been found to be of value in this condition, or that any of the authorities quoted to substantiate the first two points had tested or even heard of it.

Advertisements quoting what appear to be relatively reliable reports of clinical improvement resulting from the administration of a given preparation still require careful scrutiny, coupled with a clear appreciation of the natural history of the disease process in question. Favourable responses to therapy in cases of acute peptic ulcer are illustrative. It is well known that this is a cyclic disease in which the patient most commonly consults his physician during a relapse. Most will improve without therapy, and improvement can be hastened somewhat by almost any type of treatment including simple rest, mild sedation, any one of several diets, antacids, "antispasmodics" or just careful attention and concern on the part of the physician. Obviously, under these circumstances, the simple observation that 23 of 25 patients improved on a given preparation means little. Data on improvement from an acute exacerbation of this disease are meaningful only if carefully compared with the improvement induced by some standard treatment under controlled, "double-blind" conditions. A more difficult problem in the management of patients with peptic ulcer is the prevention of recurrences, and any drug which could prevent recurrences would represent a real therapeutic advance. However, this critical point is almost never mentioned in advertisements. This is not due to failure of advertisers to recognize the importance of this aspect of the disease, but to the inability of their product to do anything about it. In the absence of information regarding recurrences, one can safely conclude that the new preparation does not alter them, and therefore has no major advantages over any one of a great number of older and usually much cheaper forms of therapy.

The interpretation of advertisements for mixtures presents special problems. One of the first questions to ask is whether the combination is really logical. The advertiser frequently counts on the physician's failing to look below the surface in this regard. Adrenal steroids are well known to produce or reactivate peptic ulcers and it is superficially logical to combine them with an antacid. However, with the usual therapeutic regimens, the increase in acidity and the decrease in resistance to erosion induced by the steroids is essentially continuous, and in any case, the maximum effect of a given dose is exerted several hours after oral administration, long after any antacid administered with it has left the stomach. These considerations make it obvious that combination of steroid and antacid in the same tablet will be of little value and may actually be very dangerous in leading to a false sense of security.

One clue to the real value of a drug may be obtained by noting the combinations which receive major attention in advertisements. It is well known that mild sedation is useful in the management of patients with peptic ulcer. Phenobarbital is a

valuable drug for this purpose and the mild "tranquillizers" have been utilized as a more expensive method of obtaining the same effect. When a manufacturer pushes his "antispasmodic" or "antisecretory" compound in combination with phenobarbital or a "tranquillizer", it suggests that he does not have much confidence in the efficacy of his "primary" agent, and the prescribing physician may well treat it with even greater scepticism. Drug combinations frequently are justified on the basis of convenience to the physician and patient. However, in the final analysis, their major contributions are to preclude independent evaluation of the effects of the constituents and adjustments of the relative dosages to meet the needs of specific patients.

A minimum and absolute requirement in the utilization of a mixture is to know what it contains. To stress this point may appear to insult the practising physician, but experience has shown such caution to be necessary. A casual local survey during the past year revealed the following: (1) A majority of physicians utilizing a "new" and effectively advertised analgesic did not know that it is simply the standard APC (acetylsalicylic acid, phenacetin and caffeine) plus a little barbiturate. (2) Several physicians did not know the composition of the mixed electrolyte solutions they ordered by a simple number or letter designation. As a result, we have seen two recent patients with post-traumatic oliguria receiving potassium-containing solutions. Both died of potassium intoxication before renal function was reestablished. (3) A mixture of antimalarials and a steroid was administered for a dermatological condition without any appreciation of the amount of steroid in the mixture, and consequently without any provision for gradual withdrawal to allow recovery of suppressed endogenous pituitary-adrenal function. These examples, without further comment, should adequately emphasize the absolute necessity of knowing the exact composition of any mixture employed.

The above discussion may paint a rather bleak and hopeless picture of the essential impossibility of the busy practitioner adequately evaluating the drugs and drug advertising to which he is exposed. It would not be honest and accurate to leave any other impression. The advertising pressures and the multitude of new agents and combinations which do not represent real advances in therapy have combined to produce a situation with which the practitioner cannot cope satisfactorily. The drug houses themselves should take the lead in reversing the current trend by introducing new therapeutic agents and mixtures only when these provide advantages of considerable magnitude over anything previously available, and by making their advertisements less promotional and more informative. A major step in this direction would be to give their medical and research departments more control over advertising policy and content. Many of these departments contain well-qualified men who currently are embarrassed by some of the products and advertising claims of their own companies, which they may refuse to defend in conversations with their professional colleagues. However, much of the responsibility rests on the medical profession, whose obligation to the public requires active protest against current promotional practices. This can be expressed in many ways, but, in the long run, the most effective protest is refusal to prescribe agents for which real advantages have not been proved and on which complete information is not provided. For the present, the practitioner can considerably improve his utilization of new drugs, or at least minimize his mistakes, by developing a high degree of scepticism. This can be actively expressed along the following lines.

1. Be slow to accept any new agent. In dealing with new drugs it is particularly important to remember the principle—"First, do no harm." Very few new drugs represent major advances in therapy, and those which do will quickly show their real value. You will do your patients little harm by delaying the acceptance of new agents, and you may save them from dangerous side effects, from unjustified reliance on new drug therapy to the exclusion of more reliable, if less spectacular measures, and if nothing else, from the unnecessary expenditure of considerable sums of money. New drugs are never cheap.

2. If you do wish to consider the early use of new agents, select one at a time, carefully evaluate all of the available data on it, and reject its use unless there is clear evidence that it represents a real therapeutic advance. Thorough investigation of a few agents will always prove to be more profitable than cursory examination of many. It is desirable to select products for investigation from among those for which the manufacturer has provided relatively complete bibliographies. This simplifies the task, provides some selection on the basis that full information is more apt to be provided for those products in which the manufacturer himself has confidence, and finally, in the long run, such selection may induce manufacturers to provide more adequate information on their products.

3. Be particularly sceptical of mixtures, of new dosage forms and of compounds closely related to established agents. There is still much truth in the concept that how you use a drug is more important than what drug you use. Proper use requires personal familiarity with both therapeutic and toxic responses, which rarely is possible if one switches preparations at frequent intervals.

4. Finally, and most important, consciously maintain your prerogatives as a physician to decide on the basis of your own training, reading and experience what drugs to administer, and in what forms and dosages. It is appalling to note the extent to which drug houses and patients now determine therapeutic practices. Neither is qualified for this

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role. Certainly the mother is not qualified to decide whether her child should receive an antibiotic for his sore throat, and the drug manufacturer is no more competent to decide, through a fixed-ratio mixture, the relative doses of two or more drugs to be administered to a given patient.

Drug advertisements and detail men can be useful sources of information in the harassing process of keeping up with new developments in drug therapy. However, if one does not have the time, the facilities or the inclination personally to evaluate their wares, less harm will be done if they are ignored completely. Remember that advertising is advertising.

UNDERGRADUATE, POSTGRADUATE AND GRADUATE MEDICAL EDUCATION IN CANADA

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AN ATTEMPT to deal in detail with medical education in Canada at all levels as indicated by the comprehensive title above would be beyond the capacity of any one individual, and would occupy most of the space in the educational number of the Journal.

A definition of terms may serve a purpose. By undergraduate education, one implies the content of teaching in the faculty of medicine of a Canadian university leading to a degree in medicine. This degree in most Canadian universities is a doctorate of medicine.

The term postgraduate education applies to short courses of training given by universities, hospitals, or other medical organizations to those who have a degree in medicine and are in practice.

Graduate medical education is usually construed to mean a more prolonged course of continuous training in a university basic science department, hospital, or clinic. The minimum period of graduate training is one year in most instances.

There are 12 universities in Canada in which the complete course of undergraduate medical education is carried out. The current number of the Journal gives brief information on the undergraduate course offered in each of these Canadian universities. The requirements for admission vary somewhat. However, all of the universities require a period of college or university training of two to four full years, during which certain standards must be met, before the student is considered eligible for admission to the faculty of medicine. During this so-called pre-medical training, certain subjects such as physics, inorganic and organic chemistry and zoology, among others, must be included.

After acceptance into a university faculty of medicine, the student spends either four or five years in training before he qualifies for a degree in medicine. In the universities which require five years of training, the fifth year is given over to practical training in an affiliated teaching hospital. This final year in universities with a five-year undergraduate program is credited to the student as a junior intern year, which is a requirement in all Canadian provinces for licensure to practise medicine. In the cases of the universities with a four-year program, the year of junior internship is taken after graduation.

The prospective student should enquire from the dean of the faculty of medicine of the university in which he is interested, for details of admission requirements and the date set for making application for admission.

In the case of students who have pursued a part of their undergraduate medical training outside Canada and wish to be considered for admission with advanced standing, a request should be made to the dean of the medical faculty in which they are interested. Such requests should be accompanied by a transcript of the student's record. One need hardly add that such a student must have a fluent knowledge of the language used in the university to which he applies.

Most faculties of medicine in Canadian universities, or medical schools as they are sometimes called, have accepted the philosophy that the period of undergraduate training is aimed at giving the student a basic training in medicine. It would be impossible during a four-year or five-year period for a student to acquire a comprehensive knowledge of medicine. He is not trained or directed towards becoming a specialist in basic science in a special clinical field, or as a general practitioner. It is hoped that when he has earned a degree and is no longer a medical student, he will become a student of medicine during a period of graduate and postgraduate training, and indeed throughout his professional life.

During the first year of graduate training, commonly known as the junior internship in a hospital approved by the Canadian Medical Association, the student widens his interest and comes into closer relationship with the sick. During this year the student usually makes a decision whether he wishes to pursue further graduate training with

*Faculty of Medicine, University of Alberta, Edmonton; President, The Royal College of Physicians and Surgeons of Canada.

a view to qualifying himself for a career in general practice, or as a specialist in a clinical or basic science field. The length of further graduate training and its content will vary with the field of interest. It is generally accepted that at least one year or, better, two further years of graduate training are necessary to qualify for general practice. The Canadian College of General Practice has approved such courses of training in Canadian hospitals. The student should consult this organization for advice in selecting a program.

After his year of junior internship a student may wish to pursue further graduate training towards an academic career in teaching or research in one of the basic sciences of medicine. This is a rewarding career for anyone with an interest in the academic life. The usual procedure is for the student to associate himself with a university department in his field of interest. He may proceed towards a graduate degree such as an M.Sc. or a Ph.D.

If the student wishes to train himself for a clinical specialty, he should, after the completion of the junior intern year, look forward to a further four years of training in an approved hospital if he wishes to qualify to sit for the fellowship or certification examinations of the Royal College of Physicians and Surgeons of Canada. Information can be obtained from the Royal College as to the requirements for training in each specialty and the hospitals approved for such training.

With the diverse avenues open to him, one often finds that the student has difficulty in making a choice. Many find that a period of one or two years of residency in the basic subjects such as internal medicine, surgery, obstetrics and gynæcology, pædiatrics or psychiatry, helps to orient the graduate towards making a choice between general practice or a specialty. In any event, a period spent in general practice is valuable as a seasoning and maturing experience, and makes the physician aware of the whole patient and his social environment.

Postgraduate teaching in medicine, as has been pointed out, is a continuing process for the lifetime of the physician. Perhaps the most valuable part of such learning is that which comes from the physician's reading of medical journals, attendance at and contribution to his local medical society, or attendance at the divisional or general meetings of the Canadian Medical Association.

Short courses of the refresher type or circuit type are offered by Canadian medical schools and the larger teaching hospitals. In addition there are regional and general meetings of national medical organizations in Canada with excellent programs which provide a stimulus to postgraduate study, or as it is better called "continuing medical education".

CANADIAN SCHOOLS OF MEDICINE

The following general information regarding Canadian schools of medicine has been kindly supplied to us. Fuller details are available on request from each school.—EDITOR.

DALHOUSIE UNIVERSITY

Faculty of Medicine
Halifax, Nova Scotia

L. B. MACPHERSON, Ph.D., Assistant Dean

DALHOUSIE UNIVERSITY, a privately endowed institution founded in 1838, established a Faculty of Medicine in 1868. The main responsibility of the School is to the four Atlantic Provinces, which have a population of some 1.8 millions. The governments of the four provinces make direct grants which have been increased appreciably in the last five years and now provide about 40% of the income of the Faculty. The number of graduates has averaged 52 in the past five years, and among them have been a small number of students from other parts of Canada, the United States, the British West Indies, and other countries.

Within the framework of the university the Faculty of Medicine has a considerable degree of autonomy. Appointments within the Faculty total about 190 of which 42 are full time. A Council of 12 members functions in an executive fashion on behalf of the Faculty, and in an advisory capacity to the Dean.

The medical course at Dalhousie is of five years' duration. As the last year is one of hospital internship, the licence to practise is received from the appropriate licensing board at the same time as the Senate of Dalhousie grants the M.D. degree. The academic year extends from early September to mid-May in the first four years, and the internship is of 12 months' duration.

Dalhousie, like other medical schools, believes that its graduates should be educated professional people and not merely intelligent technicians. The nature of the pre-medical studies (a minimum of three years and 15 university courses) that must be taken before admission to the Faculty is a reflection of this belief. Thus, although there seems to be an irreducible minimum of scientific study (six university courses in chemistry, biology and physics) that must precede the medical years, eight of the nine remaining pre-medical courses must have been in mathematics and the humanities. These pre-medical studies may be taken in the Arts and Science faculty of any recognized uni-

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versity. More than half of our students have a Bachelor's degree on entry into the Faculty. Full details of the requirements can be obtained by writing to the Registrar, or consulting the University Calendar.

The courses in the Medical School itself are under continuous review by a standing curriculum committee of the Faculty which is cognizant of the various experiments in medical education which are being conducted in other centres. Some of the features of the curriculum plan now in effect are perhaps worthy of note. The academic year is divided into three terms of 11 weeks each. Intervals of one week are set aside in November and February for term examinations, and in May for final examinations. During the four medical years there is a very gradual change in the emphasis from pre-clinical to clinical subjects. There is a considerable amount of co-operative interdepartmental teaching throughout the whole course. Even in their first year students see a few clinical demonstrations that illustrate the application of their preclinical studies. This is continued and increased in the second year. In the third and fourth years the pre-clinical science teachers in their turn co-operate with the teachers in medicine, surgery, obstetrics, pædiatrics, and other clinical specialties. The fourth year is a clinical clerkship in which the students spend two months in medicine, two months in surgery, one each in obstetrics and pædiatrics, and two months divided among the other specialties. The students work in small groups during this year and almost all of their time is spent in the teaching hospitals.

Dalhousie University has retained control of the fifth-year internship in order to ensure a balanced training. The Faculty is fully convinced that this can best be obtained by using the most suitable teaching services within a number of hospitals throughout the Atlantic Provinces. All students have two months on a general medical service, two months on medical specialties, two months on a general surgical service, two months on surgical specialties (including one month of emergency surgery), two months on obstetrics and two months on pædiatrics. Out-patient as well as in-patient training is included in all services.

The M.D. degree is granted on completion of the rotating internship. Conjoint examinations are held at that time with the Medical Council of Canada and Provincial Medical Board of Nova Scotia. The degree and licence to practise are therefore received in the same year. The rotating internship is also accepted by the Royal College of Physicians and Surgeons as one of the years qualifying for certification or fellowship.

Teaching in the Faculty is carried on in the earlier years of the course in the Forrest Building (anatomy), the Medical Sciences Building (biochemistry, physiology and pharmacology), Pathology Institute (bacteriology and pathology), and in the Dalhousie Public Health Clinic. In addition, the Medical and Dental Library (33,000 volumes; 340 periodicals) is available. During the past three years extensive changes have been made in the teaching facilities of the Forrest Building and Medical Sciences Building, and plans are now complete for a large addition to the Pathology Institute which will be constructed by the Provincial Department of Public Health.

Clinical teaching is carried on mainly in the Victoria General Hospital (549 beds), the Children's Hospital (160 beds), the Grace Maternity Hospital (75 beds; 100 bassinets), Camp Hill Hospital (D.V.A.) (550 beds), the Nova Scotia Rehabilitation Centre (20 beds and out-patients), and the Dalhousie Public Health Clinic (out-patient services). Additions to several of these hospitals are now being planned. Since most of these hospitals serve as referral centres for the province of Nova Scotia, the volume of clinical material is greater than would ordinarily be found in the institutions of a city of 100,000.

The student pays tuition fees of $500 in each of the first four years, and $380 in the fifth year. Five entrance scholarships of $500 each are provided annually for residents of the Atlantic Provinces. Several bursaries and prizes totalling about $2500 are also awarded each year. In addition, a fund is available from which loans may be made to students on application.

Postgraduate study towards the M.Sc. or Ph.D. degrees may be carried out in the pre-clinical departments, and an increasingly large medical research program is carried on in these departments as well as in the clinical departments. The Postgraduate Division of Dalhousie Medical School carries on a very active program for the continuing education of physicians. Visiting lecturers are brought to Halifax and to other centres in the four Atlantic Provinces. Dalhousie staff members lecture or present clinics for local medical societies, or other medical groups. Intensive special courses of one week's duration are given to small groups of approximately ten practitioners by the Departments of Surgery, Medicine, Obstetrics, Pædiatrics and Anæsthesia. In several areas near Halifax groups of practitioners have enrolled for an organized course of lectures, clinics and demonstrations held at weekly intervals and attended by two visiting Dalhousie teachers. Over 12,000 physicians have registered for the various programs of the Postgraduate Division in recent years, and all aspects of this program have been growing rapidly.

LA FACULTE DE MEDECINE DE L'UNIVERSITE LAVAL DE QUEBEC

J.-B. JOBIN, M.D., Doyen,
Faculté de Médecine

CETTE Faculté fut fondée en même temps que l'Université Laval en 1852. Avant ce temps, la seule méthode d'éducation médicale était celle du préceptorat. Dès la fondation de l'Ecole, on nomme un certain nombre de professeurs, on adopte les premiers règlements et on s'occupe de l'organisation matérielle des locaux. C'est à partir de cette époque que les médecins commencèrent à aller en Europe parfaire leur formation médicale.

En 1854, la Faculté commence son enseignement qui comporte des leçons théoriques sur les matières fondamentales et de l'enseignement clinique à l'Hôtel-Dieu de Québec et à l'Hôpital de la Marine. Les élèves doivent même accompagner les médecins dans leurs visites à domicile, assister aux autopsies et suivre un cours de gériatrie.

En 1875, notre Faculté est reconnue par le Collège Royal d'Edimbourg. Puis on voit s'organiser progressivement toute une série de services et de cours. En 1924, on construit un nouveau pavillon de la médecine et on réorganise les départements de l'Ecole, la bibliothèque et les services administratifs.

Des professeurs de carrière sont alors attachés à chacun de ces départements et même l'on fait venir de France un certain nombre de professeurs qui contribuent à accentuer le caractère français de notre enseignement.

Pendant ce temps, les services cliniques s'étaient développés à la cadence des progrès du temps et l'ouverture de la Clinique Roy-Rousseau (maladies nerveuses et mentales), en 1926, celle de l'hôpital du St-Sacrement (hôpital général), en 1928, et celle de l'hôpital de l'Enfant-Jésus, en 1948, fournirent des facilités cliniques additionnelles très appréciables.

En 1932, se fonde la Société Médicale des Hôpitaux Universitaires de Québec. Cette société se réunit deux fois par mois et publie ses travaux dans le "Laval Médical". Les créations hospitalières, la reconstruction de l'Ecole de médecine, la réorganisation de l'enseignement et l'impulsion scientifique dont on a été témoin à cette époque sont en grande partie dues à la valeur exceptionnelle du doyen Arthur Rousseau.

En 1942, la biochimie se forme en un département autonome et en 1943, l'Ecole des Infirmières est fondée. Depuis 1942, le recrutement des professeurs se fait par concours et, s'organisent dans les hôpitaux universitaires des cours postscolaires en chirurgie, anesthésiologie, radiologie, tuberculose, anatomie chirurgicale, psychiatrie et dermatosyphiligraphie.

Ces cours post-gradués procurent à leurs élèves une formation complète qui leur permet habituellement de passer avec succès les concours de "Fellow" du Collège Royal des Médecins et Chirurgiens du Canada, et celui de Spécialiste du Collège des Médecins et Chirurgiens de la province de Québec.

En 1948, le Conseil Universitaire fonde un département de psychiatrie rattaché à la Faculté de Médecine et responsable du traitement des maladies mentales dans la région et de la formation des spécialistes en psychiatrie.

En 1949, le Conseil Universitaire décide de construire, sur la Cité Universitaire à Ste-Foy, un nouveau pavillon facultaire. La même année, l'Institut du Cancer de l'Université Laval est fondé et des cliniques anti-cancéreuses sont organisées dans les différents hôpitaux affiliés à l'Université. En 1950, le Conseil Universitaire constitue un Exécutif au Conseil de la Faculté de Médecine. En 1951, la Faculté affilie une école de technologie médicale dont le directeur est le docteur Rosaire Gingras. En 1953, l'Hôtel-Dieu St-Vallier de Chicoutimi, l'Hôpital St-Joseph de Trois-Rivières et l'Hôpital St-François d'Assise de Québec sont affiliés à l'Université Laval pour fins d'internat junior. La Faculté dispose de quinze hôpitaux qui servent à l'enseignement clinique.

Au cours de l'année 1955-56, les départements de médecine, de chirurgie, de neuro-psychiatrie et d'électro-radiologie ont été organisés et des directeurs ont été nommés à chacun de ces départements et en 1957, l'anatomie, l'histologie et l'embryologie se groupent en un département unique tandis que les départements de pédiatrie, d'obstétrique et de gynécologie, d'oto-rhino-laryngologie, d'ophtalmologie et d'anesthésiologie viennent s'ajouter aux précédents. Tous ces départements ont la responsabilité de coordonner les programmes d'étude et de voir à leur application tant pour l'enseignement clinique que pour l'enseignement théorique.

En septembre 1957, le nouvel édifice de la médecine dans la Cité Universitaire est terminé et mis à la disposition de la Faculté. Cette réalisation merveilleuse de la plus grande valeur fonctionnelle met à la disposition des professeurs et des étudiants tous les moyens matériels désirables tant pour la recherche que pour l'éducation médicale.

En 1957, notre Faculté compte 654 étudiants, quatre professeurs émérites, 43 professeurs titulaires, 44 professeurs agrégés, 116 assistants-universitaires et trois professeurs auxiliaires. Parmi ce personnel enseignant, il y a au-delà de 50 Fellows du Collège Royal des Médecins et Chirurgiens du Canada.

La bibliothèque de la Faculté dispose de 30,000 volumes et de 325 revues scientifiques.

Le Comité d'Admission est réorganisé et fonctionne suivant les standards habituels de l'Amérique du Nord. A Laval le doctorat en médecine se donne après la cinquième anée qui est consacrée en totalité à un internat rotatoire qui se fait sous la surveillance de la Faculté dans les hôpitaux affiliés à notre Ecole de Médecine. Dans chacun des principaux hôpitaux généraux, l'Ecole de Médecine nomme et paye un moniteur qui consacre tout son temps à la surveillance du travail clinique et des études des internes juniors.

L'enseignement de la médecine se fait à Laval exclusivement en français, et à peu près tous nos professeurs avaient autrefois fait leurs études post-universitaires en Europe. Il n'en est plus de même aujourd'hui alors qu'une très forte proportion des nôtres ont fait leurs études post-universitaires en Amérique du Nord. Et nous nous devons de nous adapter aux conditions de géographie humaine dans lesquelles nous vivons. Il nous faut donc, en puisant à deux sources culturelles qui sont différentes à plus d'un point de vue, en arriver à une conception de la culture et de l'éducation médicale qui soient conformes aux normes qui ont cours en Amérique du Nord.

Depuis octobre 1956, nous avons des nôtres qui occupent des postes officiels de résident dans les hôpitaux de Paris, et des postes identiques viennent d'être obtenus à Lyon.

Par ailleurs, nombreux sont les nôtres qui sont actuellement aux Etats-Unis et dans les autres provinces du Canada et nous en sommes heureux

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car ils en rapportent une culture et des amitiés qui favorisent singulièrement l'épanouissement de notre groupe ethnique sur le plan national.

La médecine étant en perpétuelle évolution, l'éducation médicale doit s'adapter à des conditions qui changent d'année en année et c'est bien la ferme détermination de la Faculté de Médecine de Laval de ne pas faillir à cette tâche.

De nouvelles initiatives sont en voie de réalisation.

UNIVERSITE DE MONTREAL

Faculty of Medicine
Montreal, Quebec

WILBROD BONIN, M.D., Dean

THE UNIVERSITY of Montreal Faculty of Medicine, incorporated in 1920, is a component school of the University of Montreal, and is under the full jurisdiction of the university, a private institution. It is located in the same building as most other component schools of the university, 2900 Mount Royal Boulevard, Montreal. Legal ownership of the school is vested in the Board of Governors of the University of Montreal. The faculty is headed by a dean, a vice-dean and a secretary. The dean or vice-dean may be director of studies. Present officers are: Dr. Wilbrod Bonin, Dean and Director of Studies; Dr. Roger Dufresne, Vice-Dean; Dr. Joseph-Luc Riopelle, Secretary. Instruction in the faculty is in French.

Entrance requirements are, among others: (a) a sufficient knowledge of French; (b) a B.A. degree of the University of Montreal, or its equivalent, or the brevet of the College of Physicians and Surgeons of the Province of Quebec; (c) a preparation in pre-medical sciences (physics, chemistry, biology) of the same level as section B of the University of Montreal B.A. degree. Notwithstanding these entrance requirements, the faculty reserves its right to select only the better candidates. Completed application forms must be sent before June 20 of the year of contemplated admission.

The minimum period of professional training required by the University of Montreal as a qualification for the M.D. degree is five years, including 12 months of rotating internship in approved hospitals.

The medical curriculum includes instruction in laboratory courses in basic medical sciences at the university building, and clinical teaching in approved hospitals. There are four sessions of 32 weeks each, exclusive of examination periods. The sessions begin on the second Tuesday of September. Fifth-year internship begins on June 1 and ends on May 31 of the following year. A program of graduate work leading to M.Sc. and Ph.D. degrees is also provided by the Faculty of Medicine.

Three schools administered by the Faculty of Medicine, each of them with a director and an education committee, give courses in dietetics; medical technology; physiotherapy; occupational therapy; speech therapy and audiology—namely, the Institute of Dietetics, the School of Medical Technology, and the School of Rehabilitation.

Two series of postgraduate courses leading to a certificate (Anæsthesiology, Neuro-Anatomy and Neuro-Physiology) have been organized by the faculty. The program of study of anæsthesiology comprises a period of training of two years in anæsthesia, as well as a number of lectures, seminars and laboratory sessions on basic medical sciences. The course in neuro-anatomy and neurophysiology comprises 50 hours of lectures and laboratory sessions. The last-named course is given every two years.

Postgraduate courses which change every year are also given to practitioners, residents and interns.

Fees for the medical curriculum are $525 a year for the first four years and $325 for the last year, for Canadian residents. There are added charges for students' associations, etc. Fees for graduate courses (M.Sc., Ph.D.) are $375 a year.

The following hospitals are used for clinical teaching: Hôtel-Dieu, Notre-Dame, Miséricorde, Ste-Justine, Sacré-Cœur, St-Luc, Queen Mary Veterans' Hospital, Général de Verdun, Pasteur, Ste-Jeanne-d'Arc, St. Joseph Sanatorium, and Maisonneuve.

A considerable number of scholarships are provided by the Quebec Ministry of Youth and Social Welfare to medical students; and by the Quebec Ministry of Health to students of the School of Medical Technology and the School of Physiotherapy. Loans are made by the Kellogg Foundation to medical students, and by the Poliomyelitis Foundation to students of the School of Physiotherapy. In addition, scholarships and loans are available from a few other agencies.

McGILL UNIVERSITY

Faculty of Medicine
Montreal, Quebec

LLOYD G. STEVENSON, M.D., Dean

McGILL UNIVERSITY, established by Royal Charter in 1821, is privately endowed and the trustees of its funds are the Board of Governors who constitute "The Royal Institution for the Advancement of Learning".

The Faculty of Medicine came into existence in 1829, when the Montreal Medical Institution, founded at the Montreal General Hospital in 1824 and the first medical school in Canada, was transferred to the university.

Candidates for admission to the Faculty of Medicine must complete a minimum of three full years of study in a recognized college or faculty of arts and science in harmony with the requirements for the degree of B.A. or B.Sc. at the college where the courses are taken. During this period of pre-medical study the candidate must complete full courses, with laboratory work, in

general and organic chemistry, physics and zoology. If possible the candidate should take the Medical College Admission Test conducted by the Educational Testing Service.

The course of study in medicine is of four years' duration. Each session begins early in September and continues until the middle of June, except in the final year when it is a month less in order that the degree of Doctor of Medicine, Master of Surgery (M.D., C.M.) may be awarded at the regular university convocation at the end of May. Graduates in medicine are required to complete at least one year of internship in an approved hospital before they become eligible for a licence to practise medicine. The annual tuition fee in medicine is $750.

The clinical facilities of a number of Montreal hospitals are available to the Faculty of Medicine. The Montreal General, Royal Victoria, and Montreal Children's Hospitals are the three general teaching hospitals. The Montreal Neurological Institute, Royal Victoria Montreal Maternity Hospital, Royal Edward Laurentian Hospital, Verdun Protestant Hospital, and the Alexandra Hospital for Infectious Diseases provide clinical teaching in special fields. The university is fortunate in having such a large amount of excellent clinical material made available for teaching of its students by these institutions. An opportunity for living-in by students in the senior year is provided by the general teaching hospitals when the student is in the medicine, surgery, pædiatrics and obstetrics rotations.

Opportunities for postgraduate instruction exist in all departments of the Faculty of Medicine. In the basic medical sciences such instruction is offered under the direction of the Faculty of Graduate Studies and Research leading to M.Sc. and Ph.D. degrees. A number of the clinical departments offer organized postgraduate courses of some years' duration leading to a diploma in the appropriate field, such as Internal Medicine or Psychiatry, from McGill University. A course of study leading to a Diploma in Tropical Medicine and Hygiene is offered by the Department of Health and Social Medicine.

The needs of the medical student and graduate are well served by the Medical Library, which contains more than 80,000 bound volumes and extensive collections of other items. The chief value of the library is in its periodical collection, and relatively little is lacking in the way of important journal literature in all languages. The ophthalmological section is particularly outstanding.

A unique possession of McGill University is the Osler Library. This special library of the history of medicine and science was bequeathed by Sir William Osler to his alma mater, and its collection of nearly 12,000 volumes is outstanding in this field.

Financial assistance for worthy and needy students is available in limited amount (a maximum of $750 yearly) through scholarships such as the Keith Hutchison and C. B. Keenan Memorial Scholarships and other smaller scholarships and bursaries established for this purpose. Limited assistance in the form of loans, repayable after graduation, is available to needy students with satisfactory academic standing but not of scholarship calibre. Such awards cannot normally be considered until a student has established his competency by completion of at least one year of medical study.

UNIVERSITY OF OTTAWA

Faculty of Medicine

Ottawa, Ontario

J. J. LUSSIER, M.D., Ph.D., Dean
J. AUER, M.D., D.Sc., Assistant Dean

THE UNIVERSITY of Ottawa was incorporated in 1866 by an Act of Legislature of the Province of Canada. The University is privately governed by the Oblates of Mary Immaculate. The Faculty of Medicine was founded in 1945 and its first class graduated in 1951.

The aim of the founders of the Faculty of Medicine was to establish a medical school serving the peculiar needs of the Canadian Capital as the centre of bilingual Canada. A great number of Faculty members are bilingual and the students are primarily young men and women of English and French descent. We believe that such an institution, where English-speaking and French-speaking Canadians intermingle and learn both languages in pursuing their common scientific and professional goal, develops a spirit of true Canadianism based on mutual understanding.

The program of studies leading to the M.D. degree consists of two pre-medical and four medical years. Students attending the pre-medical years are actually registered in the Faculty of Medicine.

Students are admitted to the first pre-medical year after having passed the Grade XIII examinations of the Department of Education of the Province of Ontario (or its equivalent), and having received honours standing in the following subjects: French (composition and literature), English (composition and literature), mathematics (a choice of two of the following: algebra, geometry, trigonometry), chemistry, physics, and one of the following: history, zoology, botany, a third mathematical subject, or a third language. Students who have completed two years of college could be admitted to the second pre-medical year if their curriculum included all the subjects taught in our first year. Students holding a B.A. degree could qualify for either the first or the second pre-medical year, depending on the science subjects they had already taken. Students with a B.A. or a B.Sc. degree, whose college curriculum included the equivalent of our pre-medical subjects, could be admitted directly to the first year of medicine proper.

The degree of Doctor of Medicine is granted at the end of the four medical years. One year of internship is required before a student may obtain the licence to practise of the Medical Council of Canada.

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The Faculty of Medicine offers a program of postgraduate studies leading to the M.Sc. and Ph.D. degrees in the pre-clinical sciences. The Department of Psychiatry of the University offers postgraduate training in association with affiliated hospitals to prepare students for certification in the specialty of psychiatry by the Royal College of Physicians and Surgeons of Canada. In addition, our main teaching hospital, the Ottawa General, has been approved by the Royal College of Physicians and Surgeons of Canada for graduate training in gynæcology and obstetrics, internal medicine, pædiatrics, pathology, radiology and surgery.

The Medical Building, inaugurated in 1954, comprises large teaching laboratories, many small research laboratories, lecture rooms for all preclinical sciences, the medical library, and the administrative offices.

The Ottawa General Hospital (600 beds) is the main teaching hospital of the University. Clinical teaching is also conducted at the Veterans' Pavilion of the Ottawa Civic Hospital (120 beds), St. Vincent's Hospital (200 beds), Royal Ottawa Sanatorium (315 beds), Rockcliffe Military Hospital, and the Ontario Hospital in Brockville.

Medical care is available to students through the Students' Health Service. No dormitory facilities are provided at present, but students have no difficulty in finding lodging near the campus.

The Committee on Admissions considers scholastic records, letters of recommendation from pre-medical teachers, and the impressions gained from a personal interview. The Committee prefers to decide which candidates should be granted this interview. There is no discrimination because of race, sex, creed, colour, or national origin. However, the number of non-Canadian citizens who can be admitted each year is limited.

The tuition fee for Canadian students is $375 for each of the pre-medical years, and $475 for each of the other years. Non-Canadian students add $300 to the regular fee.

Students who are Canadian citizens may apply to the appropriate authorities of their Provincial Government for scholarships, which are usually awarded on the basis of scholastic achievement and financial need. There is also a loan fund, established in 1958 by the Kellogg Foundation, to help undergraduate medical students finance their education. This fund is administered by a special committee of the Faculty.

Registration for 1958-59 is 290.

QUEEN'S UNIVERSITY

Faculty of Medicine
Kingston, Ontario

G. H. ETTINGER, M.D., Dean

QUEEN'S UNIVERSITY is an endowed institution administered by a Board of Trustees who are elected primarily by its graduates. Its income is made up of fees from students, interest on endowments, and grants from the provincial and dominion governments. The Faculty of Medicine is administered by a faculty board, consisting of the principal, vice-principal, dean, professors, and associate and assistant professors. The faculty selects the students, conducts the teaching and examinations, and recommends to the Senate those whom it considers worthy to receive degrees in medicine. The Senate, a body consisting of the principal, vice-principal, faculty deans and elected members from each faculty, awards all university degrees and determines all matters of an academic nature, including the approval of recommendations which come from the various faculties.

The course of six years is divided into two years of pre-medicine and four years of medicine. Following graduation, the student is required to spend one year in a rotating internship at a teaching hospital approved by the university, before he is given a certificate of completion of studies.

For admission to the Faculty of Medicine in 1959 the candidates must have Grade XIII matriculation standing or equivalent, in English, a second language, physics, chemistry, two papers in mathematics, one of which should be trigonometry, and another optional subject. Sixty-four freshmen are admitted annually.

A limited number of students who have taken their pre-medical education in the Faculty of Arts in this or another university will be accepted for the first medical year.

The teaching hospitals in Kingston are: the General Hospital (483 beds), the Hôtel-Dieu (280 beds), St. Mary's Hospital (for chronic illness—116 beds), Ongwanada Sanatorium (for tuberculosis—160 beds), the Ontario Hospital (for mental illness—1500 beds), and the Kingston Military Hospital (125 beds).

Opportunities for research and graduate training are available in the basic medical and the clinical departments, and may be supplemented with teaching fellowships. A two-year course in medical radiology is open to graduates of any Canadian medical school, and leads to a diploma in either diagnostic—D.M.R.(D)—or therapeutic—D.M.R.(T)—radiology.

The degrees offered to undergraduates are M.D., C.M. After 1960 the M.D. alone will be awarded. Graduate degrees available are M.Sc. (Med.) and Ph.D.

The fees* are: sessional fee for pre-medical undergraduate, $350; for medical undergraduate, $500; student interest fee (including health service), approximately $45; sessional fee for M.Sc.(Med.) and Ph.D., $250; D.M.R. fee, $250; degree fee, M.Sc. (Med.), $20; degree fee, Ph.D., $50.

Both men and women are admitted to the Faculty of Medicine. In the first year all women and a number of the men are housed in university residences. The university maintains a housing bureau and can advise students as to suitable boarding and lodging houses. Women not in residence may obtain meals at Ban Righ Hall, and men may be served in the cafeteria at the Students' Memorial Union. The average cost of room and meals is from $15 to $18 a week.

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*It is possible that the fees for undergraduate courses may be increased by 10% after this statement goes to press.

Entrance and matriculation scholarships varying in value from $30 to $1500 are open to candidates for admission to medicine. Details may be obtained from the University Registrar. In addition there are bursaries including Dominion-Provincial Student Aid Bursaries and the Atkinson Charitable Foundation Bursaries. Applications for bursaries from these funds should be made through the high school principal. Reuben Wells Leonard Bursaries are also available; information should be obtained from the Toronto General Trusts Corporation, Toronto.

A number of scholarships and prizes are awarded at the conclusion of each undergraduate year, some of which are more than sufficient to pay the class fees. The total sum of these exceeds $12,000. A university loan fund offers help in meeting minor financial distress.

UNIVERSITY OF TORONTO

Faculty of Medicine

Toronto, Ontario

J. A. MACFARLANE, M.B., Dean

THE MEDICAL SCHOOL of the University of Toronto is a faculty of that university, and as such receives support from the Government of Ontario. It also receives funds from the fees paid by students, and from private endowments.

Candidates for admission to the first pre-medical year must have passed the Grade XIII examinations of the Department of Education of Ontario (or their equivalent) in the following subjects: English (2 papers), chemistry, physics, mathematics (algebra, trigonometry, geometry), a foreign language (2 papers).

In the two pre-medical years the student studies physics, chemistry, zoology, comparative anatomy, and psychology. He also take two years of English, two years in either philosophy or history, and two years in another subject of his own choosing from a limited list including mathematics, botany, and the humanities.

The number of students admitted to the first pre-medical year is 125. For the most part, these students come from the province of Ontario. The class is increased to 150 in the first medical year by the admission of students who have taken a degree in arts or science and have included in their course inorganic and organic chemistry, physics, biology, and comparative anatomy, as well as English. A limited number of applicants are admitted at this level from other universities in Ontario, from other provinces of Canada, and from the British Commonwealth.

The professional course consists of four years, the first two of which are devoted to the preclinical sciences, with the clinical work starting during the second year and continuing through the third and fourth years. The instruction in the final year is carried on almost entirely in the wards, laboratories and outpatient departments of the hospitals affiliated with the university. These include three general hospitals—the Toronto General, St. Michael's, and the Toronto Western; the Hospital for Sick Children; the Toronto Psychiatric Hospital; the Women's College Hospital; and the Princess Margaret Hospital. The facilities of Sunnybrook Hospital and the Toronto Hospital for Tuberculosis are also used for postgraduate training.

The fees in the pre-medical years are $379 for men and $366 for women. In the first three medical years they are $596.50 for men and $583.50 for women; in the final year they are $606.50 and $593.50 respectively.

Limited financial aid is available to students from the university bursary fund, from Dominion-Provincial bursaries provided by the government, and from the Atkinson Foundation. There are also two loan funds, one established by the W. K. Kellogg Foundation for students in the upper years, and the other made available by the Medical Alumni Association. There is also a Dominion-Provincial loan fund. There are some 50 other scholarships and bursaries from endowed funds and bequests, which amount to approximately $14,000. In this latter group are included seven scholarships and also bursaries, provided by the Medical Alumni Association.

The average number of students graduating each year is 150. There are at present approximately 6000 living graduates of the school.

The degree granted by the university on completion of the course is Doctor of Medicine. Before 1930 the degree given on graduation was Bachelor of Medicine. The degree of Bachelor of Science (Medicine) is conferred following a year's special work devoted to research in one of the basic science departments of the faculty. The degree of Master of Surgery is awarded to graduates in medicine who have passed the examinations for fellowship in surgery of the Royal College of Physicians and Surgeons of Canada (or the Royal College of Surgeons of England, Edinburgh or Australia); who have completed three years' postgraduate work in surgery and at least one year's training in the teaching hospitals of the University of Toronto. Candidates for this degree must submit a satisfactory thesis, and pass an oral examination on this thesis.

The postgraduate program of the school includes diploma courses in Public Health, Industrial Health, Psychiatry, and Medical Radiology as well as organized graduate courses in Anæsthesia, Medicine, Obstetrics and Gynæcology, Ophthalmology, Oto-Laryngology, and Surgery. Short refresher courses for general practitioners and for specialists are given annually and members of the teaching staff take part in the course offered each fall by the Medical Alumni Association. The staff also cooperates with different branch societies of the Ontario Medical Association by supplying speakers for meetings. Advanced Graduate Courses in Medicine, Surgery, Obstetrics and Gynæcology are given each fall over a six weeks' period. The Departments of Ophthalmology and Oto-Laryngology, either alone or in collaboration, offer from time to time short courses in these specialties. A program of Decentralized Medical Education (formerly supported by the W. K. Kellogg Foundation and now

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by the University, the Provincial Government and the local groups concerned) has been carried out successfully during the past eight years. Under this arrangement senior teachers from the school visit different centres in the province and conduct rounds and clinics using cases presented by doctors in the community. A similar program of post-graduate clinics limited to the field of cardio-vascular disease has been made available to doctors in different communities throughout Ontario through the support of the Ontario Heart Foundation. This special group of clinics will be continued in the 1959-1960 session.

The Faculty of Medicine also administers the Division of Physical and Occupational Therapy, and approximately 200 students are enrolled in the three-year course leading to the Diploma in Physical and Occupational Therapy.

The Department of Art as Applied to Medicine is under the direction of the faculty. It not only serves as a department of medical illustration for the school, but at the same time provides training for medical artists in a three-year course of study leading to the Diploma in Art as Applied to Medicine.

A two-year course in Speech Pathology and Audiology has recently been established, and the first class was enrolled in the 1958-59 session. Successful candidates will be eligible for the Diploma in Speech Pathology and Audiology. Applicants should preferably have a Bachelor's degree from an approved college or university.

UNIVERSITY OF WESTERN ONTARIO

Faculty of Medicine
London, Ontario

J. B. COLLIP, C.B.E., M.D., F.R.S., Dean
G. E. HOBBS, M.D., Assistant Dean

THE FACULTY OF MEDICINE, University of Western Ontario, has been in continuous existence since the first classes were held in 1882. Originally operating as a joint stock company, this was discontinued and the Faculty of Medicine came under the direct control of the same Board of Governors as the rest of the university in 1912, and moved to the present medical building in 1921.

The University of Western Ontario is a private university but in receipt of government grants in common with other universities with faculties of medicine in the province.

The course leading to the degree of Doctor of Medicine requires a minimum of six years. The teaching is provided for two years in the Faculty of Arts and four years in the Faculty of Medicine. In the Faculty of Arts the first year is taken in common with all sciences. The majority of students then proceed to a second pre-medical year where the subjects and content have been modified to be more relevant to medicine. Arrangements are made to allow a limited number of students with other pre-medical backgrounds to enter the medical course.

The following is the requirement for admission to Pre-Medicine: Grade XIII standing in English, mathematics (algebra and geometry), French or German or Latin, chemistry, physics, and botany or zoology or trigonometry and statics. During the two pre-medical years teaching is provided at the campus of the university. In the four medical years teaching is carried out in the Faculty of Medicine building, a section of the Meek Laboratory at Victoria Hospital, and affiliated hospitals. The Faculty of Medicine building is located in the vicinity of Victoria Hospital, near the centre of the city and some distance from the main buildings of the university.

The tuition fees are $375 for each of the two pre-medical years and $585 for each of the four years in the Faculty of Medicine.

Clinical teaching is carried out in Victoria Hospital, War Memorial Children's Hospital, Westminster Hospital, St. Joseph's Hospital, St. Mary's Hospital, Beck Memorial Sanatorium, the Ontario Hospitals in London and St. Thomas, and Bethesda Home and Hospital.

A large number of scholarships and awards are available, as well as a substantial student loan fund.

Funds are available to bring outstanding lecturers to the Faculty of Medicine each year in medicine, surgery, pathology, and psychiatry.

Facilities are available for training in both the clinical specialties and basic sciences. Inquiries should be directed to the department concerned.

UNIVERSITY OF MANITOBA

Faculty of Medicine
Winnipeg, Manitoba

LENNOX G. BELL, M.D., Dean

THE UNIVERSITY OF MANITOBA, which is a provincial institution, confers the degree of Doctor of Medicine. Seventy-two students are admitted to the Faculty of Medicine annually. For admission, following junior matriculation, three pre-medical years in the Faculty of Arts and Science are required. The course in the Faculty of Medicine is four years, consisting of two years largely devoted to the pre-clinical subjects, a third year in which instruction is mainly clinical, and a fourth year in which clinical instruction is largely carried out at the bedside. The chief teaching hospitals are the Winnipeg General Hospital, St. Boniface Hospital, Children's Hospital of Winnipeg, and Deer Lodge Veterans' Hospital. The main university buildings are in Fort Garry, and the buildings of the Faculty of Medicine are adjacent to the Winnipeg General Hospital. Fees in the Faculty of Medicine are $520 a year. Dr. David A. Stewart Memorial Scholarships of a value of from $200 to $450 annually are available to a limited number of students. Assistance may also be obtained from the W. K. Kellogg

Student Loan Fund and from Dominion-Provincial Youth Training Scholarships. Scholarships of smaller amounts are also available.

Outstanding features of the Faculty of Medicine are: an excellent library housed in a new wing, and a large museum of pathology in which approximately 4000 specimens are permanently displayed.

In order that senior students may learn at first hand something of the conditions, problems and satisfactions of rural practice, fourth-year students are encouraged to spend a period of two weeks under a selected rural preceptor. This has proved to be a valuable educational feature of the course.

Four-year postgraduate diploma courses in Surgery and Anæsthesiology are offered. These consist of a series of graded resident appointments at the teaching hospitals, and lectures and seminars especially designed for candidates preparing for the examinations of the Royal College of Surgeons of Canada.

UNIVERSITY OF SASKATCHEWAN

Faculty of Medicine

Saskatoon, Saskatchewan

J. W. MACLEOD, M.D., Dean

THE COLLEGE OF MEDICINE had its origin in the School of Medical Sciences, formed in 1926 to provide the first two years of medical studies. The curriculum was altered in 1945 to conform to the four-year pattern adopted by most Canadian universities. With the laying of the cornerstone of the University Hospital and consolidation of plans for clinical departments, the medical school became the College of Medicine in 1952. Clinical departments were set up two years later with full-time heads in medicine, surgery, obstetrics and gynæcology, psychiatry, pædiatrics, rehabilitation medicine, anæsthesia, ophthalmology, diagnostic radiology, therapeutic radiology, and social and preventive medicine. With assistants in several departments, the number of full-time teachers in the above departments of the College of Medicine and University Hospital in 1958-59 is 32. Working with these are 130 part-time teachers, of whom 30 are general practitioners. The first M.D. degrees were conferred at the regular university convocation on May 10, 1957. A year of internship satisfactory to the College of Physicians and Surgeons of Saskatchewan is required before licensure.

The Medical Building, opened in 1949, has four full floors and a fifth floor containing animal quarters, operating rooms and radio-isotope laboratories. Connecting with it on three floors is the University Hospital. Opened in January 1955, this 550-bed hospital is running at 80 to 85% occupancy. Special features include psychiatric and rehabilitation wards on the fifth floor, sharing facilities in therapy; a large cafeteria dining room on the sixth floor with facilities for meal-time committee meetings; a drug-manufacturing unit run as a teaching activity by the College of Pharmacy, and laboratories for pulmonary function studies, cardiac catheterization and work with radioactive isotopes. In the hospital are housed also the Cancer Clinic of the Provincial Department of Public Health, the Canadian Red Cross Society Blood Bank and an outpatient department occupying two floors of one wing. Substantial gifts from the Saskatchewan Division of the Canadian Cancer Society, the Provincial Government and the University in total amount of $848,000 permitted the opening of the Saskatchewan Cancer & Medical Research Institute in May 1958. This has provided additional animal quarters, operating rooms, an electronics workshop, facilities for isotope and radiation studies, constant-temperature rooms and a module system of laboratories suitable for biochemistry, tissue culture and other standard research techniques. One floor houses a cancer research unit supported by the National Cancer Institute, which comprises also a university department of cancer research.

The University Hospital does not come under the university, but is administered by a board established by the University Hospital Act. By the latter's terms three representatives of the university are on the Hospital Board, two of whom must always be the President of the university and the Dean of Medicine. The identifying of medical care with educational goals is further assured by the rule whereby the professorial heads of university departments are also the chiefs of the corresponding hospital departments. In line with the goal of the College of Medicine to prepare graduates who will meet the needs of Saskatchewan communities, special attention is being given to the training of family doctors. During the undergraduate period the student is exposed to the best possible examples of the general practice of medicine. This is aided by a rural preceptorship in the final year and by the close collaboration in the clinical departments of full-time teachers, part-time specialists and selected general practitioners. The latter are attached to services in the University Hospital through the Department of General Practice. A specially arranged two-year internship is urged as minimum training for those who desire to become family doctors. Clinical teaching is carried out also at the Saskatoon City Hospital, at St. Paul's Hospital, at the Saskatoon Sanatorium and at Saskatchewan Hospital at North Battleford (psychiatry). The first two of these are affiliated with the university for specialist training in several specialties. Fourth-year students spend a month in either obstetrics or pædiatrics at the Regina General Hospital or the Regina Grey Nuns' Hospital.

Entrance to medicine is by the bachelor's degree in arts or science, or the completion of at least two years of university work after Grade XII. Apart from required work in English, a foreign language, physics, chemistry and biology, emphasis is placed on liberal studies along lines of personal interest. This may be illustrated by the following excerpt from the calendar: "Students are reminded that there is no advantage in taking medical subjects such as biochemistry, physiology or bacteriology during their pre-medical work. Nor will the accumulation of many credits in science subjects give one applicant advantage over another

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with similar accomplishment in other academic fields, such as humanities or social sciences. Since the branches of medicine are so varied, there is room for a wide variety of talents and backgrounds among those admitted to its study. In any one class it is hoped that there will be some students who have gone deeply into one or more of the following fields: the physical or biological sciences or mathematics; philosophy, psychology, sociology or anthropology; history, literature or languages, either classical or modern."

Forty students are admitted, of whom about 10% may be from outside the province. The latter are selected on the basis of distinctive qualities in background or experience as well as scholarship. The tuition fee for first-year medicine is $425 and for subsequent years $475. Other student fees, including health service, are $45. A limited number of students may live in university dormitories.

Postgraduate study towards M.Sc. or Ph.D. degrees may be carried out in the medical science departments. Advanced work in the clinical fields may be arranged through the heads of the respective departments or the Executive Director of the University Hospital. Residency training is available in most specialties. Extra clinical experience is provided for general practitioners on an individual basis.

UNIVERSITY OF ALBERTA

Faculty of Medicine
Edmonton, Alberta

J. S. THOMPSON, M.D.,
Executive Secretary

THE FACULTY OF MEDICINE of the University of Alberta is administered as part of the university, which is a provincial government institution.

The minimum entrance requirements are two complete years of university work following senior matriculation. The required subjects are inorganic chemistry, organic chemistry, physics and zoology. The other classes that the student takes may be in the humanities or the sciences, no particular value being attached to any subject.

Each of the four years consists of 33 weeks, exclusive of holidays and final examinations. The degree given is Doctor of Medicine.

The schedule of fees is: first year $365; second year $475; third year $525; fourth year $525. Students in all years pay, in addition, $28.25 in general university fees.

The chief teaching hospitals are the University Hospital, the Royal Alexandra Hospital, the Edmonton General Hospital, and the Misericordia Hospital, which are all general hospitals in the city of Edmonton. Use is also made of the facilities of the Ponoka Mental Hospital, the Charles Camsell Indian Hospital, the Aberhart Tuberculosis Sanatorium and the Provincial School for the Deaf.

Financial aid for students is somewhat limited. Grants and loans are available through the Students Assistance Act of the Province of Alberta and through a W. K. Kellogg Student Loan Fund as well as through a small loan fund established by the Class of 1941. The College of Physicians and Surgeons of Alberta donates $200 scholarships to the two top-ranking students in each of the first three years, and also provides a fellowship of $1200 (plus fees for the next academic year), which is awarded to a student who takes a year from his medical course to obtain further training in one of the basic sciences. Certain small prizes for proficiency in various subjects are available, as are some scholarships open to the student body of the university as a whole.

A major revision of the curriculum has recently been completed. This new curriculum stresses student responsibility and has greatly increased the time students spend on the wards. Lectures have been sharply reduced and a clinical clerkship has been introduced into third year. At least one half day per week in all years is designated as free time during which there are no teaching exercises of any kind.

First year is devoted to the basic sciences of Anatomy (all branches), Physiology and Biochemistry (General). Second year covers Bacteriology, Pharmacology, Clinical Pathology and Clinical Biochemistry and some Pathology. The third and fourth years are devoted to clinical subjects plus Pathology and Preventive Medicine. In all years student participation in discussion groups and seminars is emphasized.

Clinical teaching is commenced, in a small way, in first year with Introductory Psychiatry. It is expanded in second year with courses in Physical Diagnosis and Introduction to Medicine. In the third year a single course, "Survey of Disease", covers the great majority of Medicine, Surgery and Pædiatrics, students being assigned to individual departments for ward work in clinical clerkships. Certain other specialties are also taught as separate courses in this year. Fourth year is almost entirely a clerkship year with only a few hours a week of didactic and reading-course teaching.

Facilities for taking advanced degrees are available in various departments including Anatomy, Biochemistry, Bacteriology, Pathology, Physiology, Medicine and Surgery. Such study is under the jurisdiction of the School of Graduate Studies of the University of Alberta.

The committee of the Faculty of Medicine on Graduate Studies has at present under its direction a large number of doctors at various stages of their training in different specialties. No degree is granted by the university at the end of this program, since it is designed to give the doctor a comprehensive training in his specialty that will enable him to take the certification or fellowship examinations of the Royal College of Physicians and Surgeons of Canada with a reasonable chance of success. Since the program for each candidate is shaped to suit his particular needs, no details of the program can be given here.

Our Committee on Continuation Studies works closely with the College of Physicians and Surgeons of Alberta to provide postgraduate programs for local practitioners. These usually consist of: (1) visits by travelling teams to centres in Alberta,

(2) short courses of two or three days' duration in certain fields such as electrocardiography, orthopædic surgery, pædiatrics, general medicine and surgery.

UNIVERSITY OF BRITISH COLUMBIA
Faculty of Medicine
Vancouver, British Columbia

JOHN F. McCREARY, M.D., Dean
CHARLES G. CAMPBELL, M.Sc., M.D., Assistant Dean

THE UNIVERSITY OF British Columbia Faculty of Medicine was established in 1950 and its first class graduated in May 1954.

The physical plant consists of a group of basic medical sciences buildings on the main campus of the university. A number of departmental offices and laboratories of the clinical departments are housed at the Vancouver General Hospital. At the hospital, over 500 beds are assigned for teaching medical students. In addition, the facilities of St. Paul's Hospital, Provincial Mental Hospital (Essondale), the Children's Hospital, and the G. F. Strong Rehabilitation Centre are used in clinical teaching.

A new Medical School and Pathological Services building has been completed at the Vancouver General Hospital site. This houses the departments of medicine, pathology, and surgery, as well as providing library facilities, administrative offices and students' areas. The library is a biomedical branch library of the University Library on the main campus.

The entrance requirement of the Faculty of Medicine includes three years of pre-medical studies in an approved Faculty of Arts and Sciences. Minimum course requirements include one year of English, one year of mathematics, three years of chemistry, one year of physics and one year of biology-zoology.

Classes for the first year in medicine are limited to 60 students. There are no restrictions as to residence. No applicant is accepted who has been required to withdraw from another medical school. A personal interview may be requested of any applicant.

The academic year begins on the first Tuesday after Labour Day. Tuition fees in each year of the medical course are $551. No extra tuition fees are charged non-residents, but non-residents of the province must pay a $10 hospitalization fee.

The examinations of the Medical Council of Canada are used as conjoint final examinations in the fourth year. All written and oral examinations are held in late April or early May. Each candidate for the degree of Doctor of Medicine is required to present a thesis acceptable to the faculty.

Application blanks are available between August 15 and December 15. Accepted applicants must pay a preliminary fee of $100 to be applied on the tuition of the first year of the medical course. Correspondence should be addressed to the Faculty of Medicine, University of British Columbia.

ORIGINAL ARTICLES

IMIPRAMINE (TOFRANIL*): A NEW DRUG FOR THE DEPRESSED†

H. AZIMA, M.D., *Montreal*

THE INTRODUCTION of new drugs in psychiatric treatment within the last few years has opened a new phase in effective control of all states of excitation and agitation. Within the last three years, more than 20 new compounds have been developed for the control of mental disorder. The primary indication for these drugs has been and still is the states of excitation, agitation, and particularly manic phenomena.

Once an effective treatment for excitation and elation became available, it was natural that a search for an antidepressant substances should be made. The older stimulants, such as amphetamines, were too temporary and weak in their effects and newer ones were either mild in their potency or provoked too severe complications.

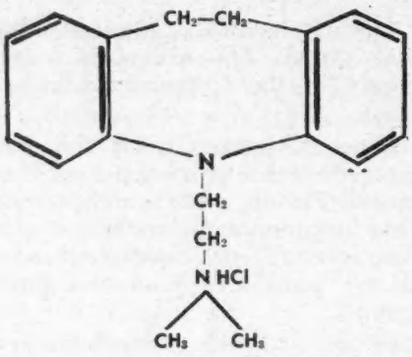
Following Kuhn's observations concerning the therapeutic efficacy of an iminodibenzyl compound,[1] a preliminary trial in 65 depressed patients[2] and a clinical and psychodynamic study[3] proved this substance to have a potent anti-depressant capacity, and very little or any effect on other mental syndromes. Concomitantly Lehmann, Cahn and DeVerteuil reached similar conclusions.[4]

The present paper is the outcome of further trials in 100 depressed patients, treated with this compound.

MATERIAL AND METHOD

Imipramine (Tofranil) is N-(3-dimethylaminopropyl)-iminodibenzyl hydrochloride with the following structural formula: C_{19} H_{25} N_2 Cl.

*G-22355, Geigy Pharmaceuticals.
†From the McGill University Department of Psychiatry, Allan Memorial Institute, Montreal.
This study was subsidized by N.I.M.H. grant (MY 1794).



Its toxicity measured by the lethal dosage (LD50 expressed as mg./kg.i.v.) is 38 in mice, 25 in rats and 15 in rabbits. In isolated animal organs it has an antihistaminic, anti-acetylcholinic, spasmolytic ($BaCl_2$ induced), anti-serotonin (guinea-pig ileum) and anti-adrenaline and noradrenaline (rat seminal vesicle) action. In intact animals it has some hypometabolic and hypotensive effect and potentiates hexobarbital sodium (Evipan) anæsthesia.[5]

Imipramine was administered to 100 consecutive patients manifesting symptoms of depression, seen either as outpatients or in an open psychiatric setting (Allan Memorial Institute). There were 30 male and 70 female patients, with an average age of 49. Diagnostically they consisted of 38 neurotics (about half treated on an ambulatory basis) and 44 with psychotic depressive states (8 agitated, 26 non-agitated, 8 involutional and 2 senile), 6 patients suffering from hypochondriasis as their main depressive symptom, 8 with mixed states (anxiety, depression, hysterical and obsessive compulsive features), 3 alcoholics with depression, and one alcoholic whose drinking was seen as a depressive equivalent.

Imipramine was administered orally to all patients. No advantage was seen in using the drug intramuscularly or intravenously. The average effective dose of the drug was found to be 100 mg. daily. The routine consisted of starting the medication with a dose of 75 mg. and then increasing or decreasing it according to the patient's response within a week. In very few cases was it necessary to go beyond 200 mg. daily. Other forms of treatment were instituted if there was no favourable therapeutic response within 10 to 30 days. Usually this consisted of the administration of electroshock treatment (EST), particularly in psychotic depressions.

In patients who showed adequate therapeutic response the drug was continued on a follow-up basis from three to nine months (see therapeutic maintenance below). All patients received concomitantly supportive psychotherapy.

Four areas were particularly noted for the purpose of assessing the change in depressive states: (1) psychomotor inhibition, determined by overt behavioural observation; (2) spatio-temporal inhibition; (3) guilt feelings; and (4) self-destructiveness. The last three items were determined by phenomenological observations. The change in each area was categorized under three rating impressions as marked, moderate or slight, and the general improvement rating was envisaged accordingly under the same three categories.

In the first 75 patients the following biochemical studies were performed: serum alkaline phosphatase determination twice a week, urine analysis and white blood count and differential count once a week, blood pressure, and temperature, pulse and respiration rate (T.P.R.) twice a day.

Because of the absence of any abnormal deviation in blood and urine analysis and the lack of significant findings in B.P. and T.P.R., all these tests were discontinued after the initial assessment in 75 patients. At the time of writing, in more than 300 patients treated with imipramine no complications (blood or liver disturbances, etc.) have been observed.

TABLE I.—RESULTS OF TREATMENT OF DEPRESSION WITH IMIPRAMINE (TOFRANIL)

	No. of patients	*Improvement*		
		Marked	*Moderate*	*Nil*
Neurotic	38	12	21	5
Hypochondriac	6	3		3
Mixed	8		2	6
Alcoholic	1		1	
Alcoholic and depressive	3	2	1	
Psychotic				
Agitated	8	3	5	
Non-agitated	26	16	6	4
Involutional	8	7	1	
Senile	2	1	1	
	100	44	38	18
		82%		

RESULTS

Table I summarizes the overall therapeutic results. It should be noted that slight improvements were not considered as attributable to the drug and were included in the "nil" category. The results will be discussed separately for psychotic and neurotic depression. This separation is arbitrary because it is considered that: (1) dynamically, all depressions can be seen to form continuous states, from less to more regressed; (2) phenomenologically, this continuum manifests itself in the lesser to greater severity of the depressive psychopathology. In instances posited midway in the continuum, it becomes impossible to categorize a patient as suffering from psychotic or neurotic depression. The differentiation between neurotic and psychotic states was based upon the following considerations: (a) the severity of the feeling of depression (the intensity of guilt feelings and superego pressure); (b) the degree of regression and ego disorganization (the degree of reality syntonicity and introjection mechanism); (c) the intensity of self-destructiveness (the direction of aggressive impulses); (d) the intensity of agitation; (e) the involutional nature of the patient; and (f) the presence or absence of depressive or manic attacks in the past.

Neurotic Depressions

In this category there were 38 patients with the symptoms of depression alone; eight with mixed states of anxiety, hystero-compulsive features and depression; six hypochondriacal patients, in whom the bodily complaints could be seen as a part of covert depressive states, and four alcoholics.

Of 38 depressed patients 12 showed marked and 21 moderate improvement. Only five patients did not manifest any appreciable therapeutic response.

All the improved hospitalized patients could be discharged from hospital and all the improved ambulatory patients could resume full social activity and could be followed up at long intervals (once or twice a month).

Of eight mixed states, only two showed moderate improvement. This was noted in particular as regards depressive symptoms, the underlying neurotic picture remaining unchanged. Of six hypochondriacal patients three showed marked improvement and three no response. It was difficult to assess this difference of responsiveness. However, the inference was drawn that in the improved group the symptomatology of somatic preoccupation had a closer relationship to depressive existence, the somatic pains being the equivalent or the index of the tendency for self-destruction.

All four alcoholics showed significant improvement in that they lost the desire to drink alcohol and have remained abstinent until the time of writing of this paper, i.e. six months later. It should be noted that in all these patients the alcohol intake was more or less an impulsive act to overcome the setting in of a depressive state. Alcohol was used to "drown", so to speak, the superego pressure and relieve the depression. It can be doubted whether alcoholics with no such clear-cut defence mechanisms will benefit by imipramine treatment. However, trials are under way to determine the effects of imipramine in alcoholism.

Psychotic Depressions

There were 44 patients in this category, consisting of eight with agitated, 26 with non-agitated, eight with involutional and two with senile depression. By involutional depression is meant a psychotic depression at the involutional age, with no previous history of depressive attacks.

All in all, 40 patients showed from marked to moderate improvement and only four patients with non-agitated depression showed no appreciable response. There was nothing particular about agitated depression, which responded satisfactorily as non-agitated depression did.

It should be noted that all the patients with psychotic and many with neurotic depression would have received electroshock treatment if imipramine had not been administered.

In general, 82% of all depressed patients showed from marked (44%) to moderate (38%) improvement. Considered separately, out of 56 patients with neurotic depression 17 (30.3%) showed marked and 25 (44.6%) moderate improvement; while of 44 with psychotic depression 27 (61.3%) showed marked and 13 (29.5%) moderate improvement. The data have indicated that twice as many psychotic depressions show marked improvement as neurotic depressions. This observation is in harmony with Kuhn's findings.

PHARMACOTHERAPEUTIC REGIMEN

In addition to the dosage of imipramine mentioned previously, there are certain details about its use which have some bearing on the efficacy of this antidepressant therapy. These are as follows:

1. Initial dosage. The optimal initial dose of imipramine is 75 mg. daily, which should be increased to 150 mg. within seven days if no cumbersome side effects are apparent. Usually it is not necessary to go beyond 200 mg. daily.

2. Therapeutic response. There is a therapeutic lag of two to about 30 days between the intake of imipramine and the onset of therapeutic response. About 10% of patients will respond within two days and 50% within the first 10 days. In general, 70% of patients will show therapeutic response within two weeks. There is no such therapeutic lag if a relapse occurs after too rapid a cessation of imipramine therapy. In all patients who had improved and in whom the drug was discontinued too soon, a relapse occurred within 24 to 48 hours, but the resumption of medication reversed the clinical picture almost within the same period.

3. Duration of treatment. At present the impression is that imipramine treatment should continue for about three months after the appearance of an appreciable therapeutic response, or two months after the recovery. Withdrawal of the drug should be gradual and it should be discontinued within 10 days. Many patients will require long-term maintenance therapy for from six to 12 months or more.

4. Therapeutic maintenance. The maintenance dosage varies in patients from high to very low doses. In three patients it was necessary to maintain the dosage at 25 mg. daily in order to prevent a relapse. Several attempts at discontinuing this dose resulted in what was experienced by the patient as the beginning of a relapse.

5. Combination with other drugs. In studies not reported here the combination of imipramine with amobarbital (sodium Amytal) or chlorpromazine was found to be useful in the following instances.

(a) During the period of anxiety, agitation and tremor, which is seen in a small number of patients during the first week of imipramine treatment, the addition of sodium Amytal (about 60 mg. three times a day), chlorpromazine or promazine (about 50 mg. three times a day) will adequately control these symp-

toms. These adjuvant drugs can be discontinued after 10 to 14 days.

(b) In depressed patients who begin to show a shift towards manic states the addition of promazine or chlorpromazine with the onset of elation will abort the development of the manic phenomena. This was observed in 10 patients with a previous history of mood swings, who could be categorized as manic-depressive states. In such patients the combination of imipramine with chlorpromazine (or promazine) may be indicated from the beginning.

(c) In some agitated depressions the addition of chlorpromazine may hasten the control of agitation; however, the present study indicates that imipramine alone is effective in non-complicated agitated depressions.

6. Combination with electroshock. In patients not reported here, whose response was either too slow or in whom a prompt control of symptoms was necessary because of the depth of depression and suicidal ideas, imipramine was combined with EST. The therapeutic response seemed to be additive, i.e. the number of EST sessions and the rapidity of clinical improvement appeared accelerated. In several instances one or two EST sessions were enough to alter the course of depression sufficiently to allow the continuation of imipramine alone. The general impression was that this combination decreased considerably (by about two-thirds) the number of EST sessions in instances where imipramine alone was inadequate, in intensity or in length of time.

SIDE EFFECTS

These were all of low intensity and did not require the cessation of medication. Decrease in the dosage resulted in diminution of the intensity of complications. In order of frequency, these were as follows: tremor and agitation 20%, nausea and vomiting and dizziness 15%, perspiration 10%; palpitation 5%, dry mouth 5%, constipation 5%, headache 5%, hypokinesia 4%, blurred vision 3%, extrapyramidal signs 2%, difficulty in urination 2%, dermatitis 2%, decrease in appetite and insomnia 2%, increase in anxiety 2%, syncope 1%, photosensitization 1%. Tremor was the symptom which lasted longer than others; however, the majority of side effects occurred within the first 10 days and spontaneously decreased or disappeared. Nausea occurred at the onset of a course of imipramine, and reappeared sporadically in several cases. Constipation was rather severe, but could be controlled adequately with routine laxatives. Hypokinesia consisted of a subjective experience of muscular weakness described as "my arms are so heavy, I cannot lift them", or "my legs are so weak, they seem to be giving way". However, in no instance was there a full or sudden loss of tonus. The difficulty in urination occurred in two patients, in one of whom—a 50-year-old male—it was persistent. Urological and other examinations were negative. The condition seemed to be due to a partial bladder atonia. With the discontinuation of imipramine this difficulty disappeared. This was the only instance where the drug had to be discontinued.

DISCUSSION AND CONCLUSIONS

The above data confirm previous impressions and indicate that imipramine possesses a potent antidepressant activity with a wide margin of safety and an adequate reliability of action. The general conclusions reached from this and the author's other studies[2-4] can be summarized under two headings: the mode of action, and the future role of imipramine in depressive states.

I. *The Mode of Action*

It is evident that imipramine has definite central nervous system and neurovegetative effects. However, the present study being solely clinical, nothing can be said about the organic mode of action of the drug. It is felt that the effect of imipramine can be rendered comprehensible by considering certain data and certain psychodynamic premises. These data pertain to the changes occurring in the depressive phenomenology concomitant with imipramine administration. These changes, which we have reported in detail elsewhere,[3] consist of: (1) a shift from internal to external object relations. This means that the painful preoccupation with the inner world and its happenings is abandoned, and a re-investment of the outer world with interest ensues. This was clearly seen in the disappearance of hypochondriacal symptoms and bodily preoccupations. This change is in close connection with: (2) the diminution of guilt feelings. The intense feeling of inferiority and self-condemnation diminishes or usually disappears. This change is concomitant with: (3) a redistribution of aggressive drives. The individual becomes capable of self-assertion and a gradual ability to re-invest the outer objects with aggression instead of turning it towards the inner world. In two among the ten closely observed patients previously reported, there was an actual outburst of anger and destructiveness. The change in the direction of aggression was clearly demonstrated in the disappearance of suicidal tendencies. The disappearance of retardation was considered to be related to the redistribution of aggressive drives canalized through motility. (4) Reappearance of pre-depression, basic personality pattern. There was no change in the basic structure of personality which could be assessed through reconstruction of the patient's past history and habitual modes of object-relations.

From the above observations the following dynamic inferences (based upon psychoanalytic premises) could be made in connection with the mode of action of imipramine. It is submitted that imipramine initiated a redistribution of aggressive cathecting energies affecting mostly the inter-

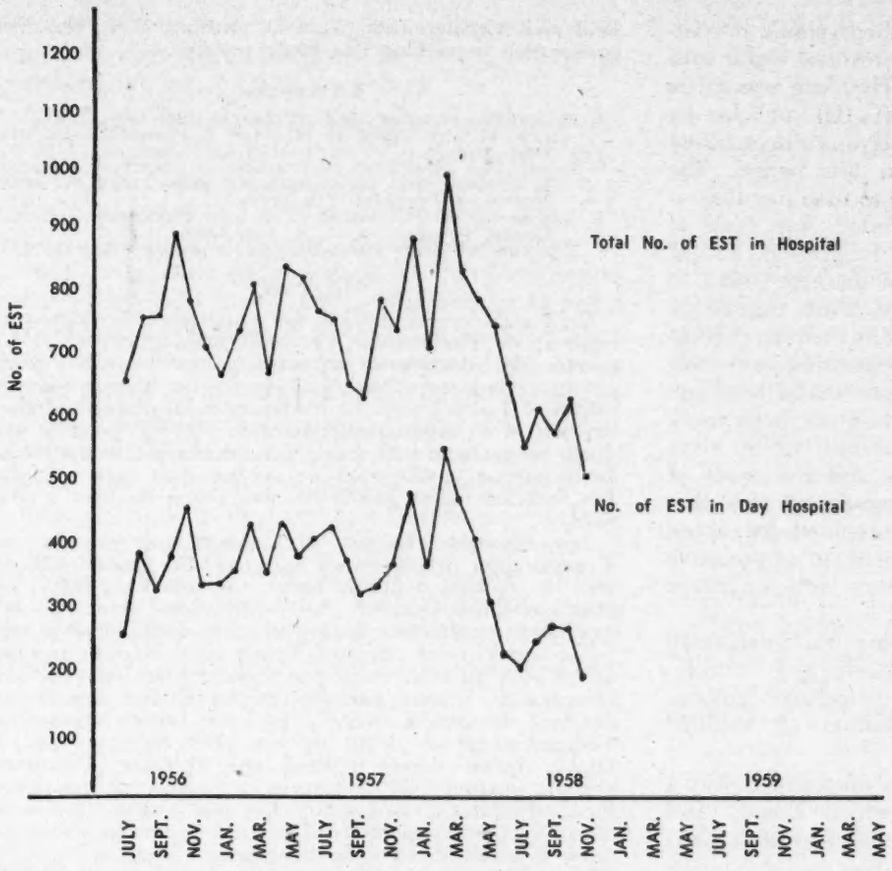


Fig. 1.—The effect of imipramine (Tofranil) on number of electroshock administrations.

nalized object system of control (superego components). It initiates a partial de-investment, a turning away of aggression from the superego components, resulting in a decrease of guilt feeling and extroversion of aggression towards external objects. This action is the opposite of what occurs in manic states with chlorpromazine (or promazine). It should also be noted that if this de-investment of superego from aggressive energies goes a little too far, the opposite state of elation and mania can occur. There would be so little guilt that control would be abandoned and disinhibition and elation would occur. This phenomenon occurred in 10 patients, who could be categorized as suffering from manic-depressive states, i.e. they had shown previously a relative lability of guilt—no guilt (hyper-invested and hypo-invested superego) states. Under imipramine therapy these patients became elated or manic. With the administration of phenothiazine the elation could be controlled and the patients' mood swings stabilized with a combination of imipramine and chlorpromazine (or promazine).

It is submitted that the specific effects of imipramine and chlorpromazine on depression and mania respectively, the dynamic relatedness of the two states, and the close relation of the chemical structure of these two compounds, provide a situation *par excellence* where psycho-physiological formulations may be made in regard to manic-depressive states, the economical principle of the mind and the concept of introjection, introjects, etc.

II. *Future Role of Imipramine in Depression*

In this connection several points of considerable practical importance in regard to management of depressed patients should be mentioned:

1. The impact on the use of EST. The present and previous studies indicate that the introduction of imipramine has brought a turning point in the management of depressive states. About 80% of patients formerly requiring EST may no longer require this treatment. The dramatic effects of imipramine on the rate of EST in the Allan Memorial Institute was demonstrated by comparing the number of EST in the last three years. Fig. 1 shows that, concomitant with the introduction of imipramine in general use in the Institute, a drastic reduction in the number of EST sessions occurred. The lower curve in the figure indicates the number of shocks used in the Day Hospital and the upper curve is the total number of shocks given throughout the hospital. It can be seen that before the use of imipramine the number of shock treatments was actually on the increase in each subsequent year, hence the dramatic drop takes on more significance.*

2. Out-patient management of depression. It can be predicted that if in further trials with imipramine the same degree of efficacy and safety persists, the drug will be used by many general practitioners or other specialists besides psychiatrists for patients showing depressive states. Hence there should be an appreciable decrease in the number of depressed patients admitted to psychiatric hospitals, and concomitantly an increase in the ambulatory treatment of depression.

3. The use of imipramine in syndromes other than depression. In this connection the following may be mentioned. (a) Premenstrual tension and depression. We have used imipramine already in this area with considerable benefit. (b) Addiction, alcoholic and otherwise. (c) Certain skin disorders. Preliminary trials in this area indicate favourable impressions of the efficacy of imipramine in some dermatological conditions.

SUMMARY

Imipramine (Tofranil) was administered to 100 consecutive patients manifesting symptoms of depres-

*It should be noted that the gradual increase in the number of EST was in part due to certain research studies in this area, which indirectly contributed to the increase.

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sion (38 with neurotic and 44 with psychotic depressions, six hypochondriacs with depression, eight with mixed states and four alcoholics). The drug was given orally in an average daily dose of 100 mg. for an average initial period of 20 days. It was discontinued if no response was elicited within this period. The follow-up period ranged from three to nine months.

In the clinical results were included only cases of marked to moderate improvement. In general, 82% of all depressed patients showed from marked (44%) to moderate (38%) improvement. Psychotic depression showed twice as much improvement as neurotic depression. All of the cases of psychotic depressions and most of the cases of neurotic depression would have required electroshock if imipramine had not been used.

There was a therapeutic lag of two to 30 days between the intake of imipramine and the onset of the therapeutic response. The impression was that maintenance therapy should be continued for about three months after the appearance of an appreciable degree of improvement. Side effects were of minor consequence.

The mode of action of imipramine was interpreted as a shift in aggressive cathecting energies of internalized object systems of control (superego component), with a secondary reorganization of libidinal investment.

The general impression was that imipramine was a potent anti-depressant substance which already had resulted in a drastic decrease in the number of sessions of electroshock treatment.

Deep appreciation is expressed to Geigy Pharmaceuticals and to the staff of the Allan Memorial Institute particularly Drs. E. Cameron, S. Barza, T. Boag, J. Beaubien, C. Bos, V. Kral and A. Silver, and Miss D. Arthurs, R.N., for their cooperation in making this study possible.

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RÉSUMÉ

Cent malades manifestant des symptômes de dépression reçurent de l'imipramine (Tofranil *marque déposée*). Le groupe des syndromes dépressifs comprenait 38 cas de névrose, 44 de psychose, 6 d'hypocondrie, 8 de syndromes mixtes et 4 alcooliques. Le médicament fut d'abord administré *per os* en doses quotidiennes de 100 mg. pendant une durée moyenne de 20 jours. On interrompit le traitement lorsqu'aucune amélioration ne survint dans cette période. Les malades furent gardés en observation de trois à neuf mois.

Les résultats cliniques ne portent que sur les cas d'amélioration prononcée ou moyenne. En général 82% de tous les malades déprimés furent très améliorés (44%) ou assez améliorés (38%). Les dépressions associées aux psychoses montrèrent deux fois plus d'amélioration que celles associées aux névroses. Toutes celles-là et la majorité de celles-ci auraient exigé une thérapeutique convulsive si l'imipramine n'avait pas été employée. On observa un décalage de deux à trente jours entre l'administration du médicament et le début de son effet thérapeutique. Il semble qu'on doive instituer une thérapie d'entretien pendant environ trois mois après l'apparence de manifestations suffisantes d'amélioration. Les incidents du traitement furent de peu d'importance. Du point de vue psychoanalytique le mode d'action de l'imipramine serait d'abord un déplacement des énergies agressives dirigées au niveau du *super-ego* et secondairement une réorganisation des tendances libidineuses. L'auteur est d'avis que l'imipramine est une médication anti-dépressive puissante qui pourrait un jour déplacer la sismothérapie.

THE USE OF IMIPRAMINE (TOFRANIL*) FOR DEPRESSIVE STATES IN OPEN WARD SETTINGS OF A GENERAL HOSPITAL: A PRELIMINARY REPORT†

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ALTHOUGH depressive illness tends towards spontaneous recovery, electroconvulsive therapy (ECT) has been extensively used for more than 20 years to reduce the period of morbidity. Perhaps nowhere is this more true than in the psychiatric units of general hospitals. Here the importunity of both patients' and relatives' demands to produce quick alleviation, allied to the problems of management in open ward settings, perhaps influences the choice of a therapy frequently producing in its train greater immobility and tractability. Certainly, no other treatment has given comparable results. Nevertheless, the accompanying "organic confusional state" may obscure recognition of the reacquisition of insight and lead to premature discharge. "Good recovery rates" may mask subsequent relapse and often readmission to another institution. But a more serious criticism lies in the "alien" nature of such treatment. Other illnesses are treated by other practitioners by drugs—this emotional illness is treated by electricity, some magical device which has led to even greater separation between psychiatry and the general practice of medicine.

In recent years, however, perhaps stimulated by the advent of the phenothiazines, greater interest has been shown in the possible drug therapy of depression. There are a number of reports on the use of iproniazid and latterly of imipramine.[1-4] Were such drugs to give comparable results to ECT, perhaps we would be one step further towards a closer integration of psychiatry and medicine. Thus, there is no doubt that a drug might be

*Tofranil (G 22355) is made by Geigy Pharmaceuticals, who kindly supplied us with generous amounts of the compound to undertake this study.

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used earlier in the illness by general practitioners and internists and also provide better follow-up care and flexibility of management.

The present limited study of imipramine is reported because the selection of patients in a general hospital where there is no psychiatric ward is different from that in either a mental or a psychiatric hospital. All the patients were admitted to general medical wards geared to quick improvement in physical illness and a short mean hospital stay. Thus, the sample is likely to contain a higher proportion of acute or first illnesses, and the therapeutic milieu to be a different one. The criterion of selection was taken as depression, whether overt or covert, which would have justified the use of ECT before the advent of imipramine. Nevertheless, as a new and successful drug becomes available, there are demands to extend its use to other depressed patients. Thus, the criterion remains more difficult to adhere to and risks being broadened. Therefore, it seemed advisable to analyze in-patient results at this preliminary stage. A separate out-patient study has been equally encouraging.

THE DRUG

Chemically, the drug is 5-(3-dimethylaminopropyl)-10, 11-dihydro-5H-dibenz (b.f.) azepine hydrochloride. Iminodibenzyl derivatives are structurally analogous to phenothiazine.[5] The sulphur linkage between the two benzene rings is replaced with a short carbon chain. Chemically it is quite distinct from the phenothiazines and does not give comparable colorimetric urinary changes.

SELECTION AND SUBJECTS

The depression in the majority was characterized by subjective feelings of fatigue, weakness, slowing down, sadness, and guilt, accompanied by loss of appetite and sleeplessness. The clinical picture ranged from severe retardation and near stupor at one extreme to severe agitation at the other, through the usual intervening stages. In some instances the covert depression took the form of extreme hypochondriasis and bodily preoccupation. In a number, this had required, either previously or contemporaneously, extensive physical investigation for elusive somatic complaints. Of the total number of 30, all were patients whose symptoms had necessitated hospital admission. There were eight males and 22 females with an age range of 33-85 and an average age of 57 years. Fourteen were classified as manic-depressive depressions, three as neurotic depressive reactions, five as the hypochondriasis of the so-called "masked depression", one as puerperal psychosis and seven as senile conditions. The majority of these last had associated physical disabilities, the most frequent of which was raised blood pressure, and they could best be regarded as cases of mild cerebral arteriosclerosis with accompanying depression. One woman had a previous cerebrovascular accident which had left her with a mild right hemiparesis and dysphasia.

Three patients had previously been given reserpine for hypertension, but the role of this drug in precipitating the subsequent depression remained equivocal.

Fifteen of these patients were seen in their first illness, i.e. first illness as judged by first hospital admission for presenting symptoms. In the majority, symptoms were of recent onset, usually of a few weeks' and seldom of more than a few months' duration. However, in some the exacerbation was superimposed on a longstanding character disorder.

Administration

In the light of Lehmann's experience,[3] the drug was usually given by mouth, starting with 50 mg. four times a day, and this remained the average dose for all patients. The upper limit of dosage was 600 mg. in a day. In some instances, the drug was reduced below a total daily dosage of 200 mg. but rarely less than 150 mg. in the day. We found that there was little difference in administering the total amount in divided dosage during the 24 hours or in a single dose, except perhaps for purposes of increasing the nursing attention given to the patient. We have been experimenting with single rather than multiple doses a day of other drugs in psychiatric patients and this has recently been reported.[6] In a few instances, either because we suspected that there might be failure of absorption or because we considered that there was a need to increase the ministrations to a patient, the drug was given in intramuscular injections of 50 mg. at a time, four times a day. Occasionally this was increased, but the bulk of injection militated against increasing the dose much beyond this level. Intramuscular injections were continued for 10 days in one patient. Four patients with severe symptoms refused to take tablets during part of their illness and were given intramuscular medication for this period. In three patients severe restless agitation and suicidal impulses were controlled by slow intravenous injection of 50-100 mg. dissolved in 20 c.c. of sterile water. Notable was the relatively slow onset of the calming and euphorizing effect of the drug over the 10-30 minutes after such injections. In three patients the imipramine was combined with a phenothiazine compound—two received chlorpromazine 300 mg. and 200 mg. daily for 10 and 24 days respectively, with good effect, and the third TP 21 (Mellaril, made by Sandoz) 600 mg. daily with similar improvement.

Assessment

The patients were assessed clinically according to the following categories:

"Recovery" = complete remission of symptoms with a return to premorbid activity including full work.

"Much improved" = a significant alleviation of symptoms but failure to reach the recovered category.

"Improved" = a significant but lesser improvement of symptoms.

"Unchanged."

"Worse."

Results were assessed by hospital progress and subsequent follow-up. The first three categories required discharge from hospital and maintained alleviation of symptoms for at least a month without readmission. In addition, the rating scale described by Lehmann[3] was used and the same evaluation of improvement on initial score used, namely a 95-100% reduction of the score classified as "recovered"; a 50-95% reduction as "much improved"; a 10-50% reduction as "improved"; a minus to plus 10% change in initial score as "unchanged"; and an increase in the score more than 10% as "worse". Our experience was similar to his, in that evaluation by rating scale corresponded very closely to the usual clinical assessment. However, as our patient population was quite a different one, "improvement" necessitated discharge from hospital and thus the clinical evaluation was used. If ECT was required the patient was classified as "unchanged" even if subsequent recovery occurred. The mean hospital stay was five weeks.

DOUBLE BLIND STUDY

After the first eight patients had been given the active drug to familiarize us with its action, a placebo was introduced. Patients under the care of other physicians were excluded for this reason, but only one patient was excluded because of the extreme suicidal severity of his illness. In all, 12 patients were so treated, six receiving placebo and six active compound. The randomization was done by the hospital pharmacist without the knowledge of either the doctors or nursing staff. The latter were unaware that a test was being carried out. At the end of two weeks, in the interests of clinical expediency, namely because this was an acute psychiatric unit in a general hospital, following rating, the double blind code was broken. Before this, a guess was made whether the patient was on active or inactive compound. At this time, active compound was substituted for placebo except in one patient who had shown marked improvement. He was maintained on placebo and made an uninterrupted recovery. Four years previously he had received a long course of ECT during a three-month admission to a state mental hospital.

RESULTS

Four patients recovered, 12 were much improved, nine were improved, five were unchanged and none was worse. Excluding the one patient on placebo, this gave a total improvement rate of 80%. ECT was required in two cases only. One patient, a severely retarded and suicidally depressed man, had two ECT treatments at the beginning of his illness and three more in the seventh and eighth week. From then onwards he made an uninterrupted recovery. Before this treatment, however, his rating scales had in fact shown a progressive improvement to the level of 50% reduction, with, in the last week before the second series of ECT was given, a slight worsening, but still a 20% improvement. The other case was in a woman who had had repeated depressive attacks, previously successfully treated with ECT. In her present illness she showed a considerable degree of agitation and constantly demanded ECT. During the first three weeks on the active drug she was given four placebo treatments. In these, only barbiturate was injected and no shock given. However, she progressively deteriorated until a short course of four ECT treatments was administered, when she showed an immediate and dramatic improvement. At the time of writing her state was better than at any time in the last five years.

The patient with puerperal psychosis failed to improve and another with severe character disorder with neurotic depression and phobic anxiety remained relatively unchanged on the active compound after showing a considerable but relapsing improvement with the placebo. One other patient who was clinically classified as "unchanged" had had anxiety phobic attacks before and after an episode of postoperative suppurative meningoencephalitis which had led to some degree of cerebral atrophy. The intensity of these attacks remained although they were reduced in frequency. Her present admission had been precipitated by the burning down of her house and, in fact, her depression and emotional lability did show some alleviation (with a 30% reduction of rating scale).

Two patients who improved dramatically are described below because they illustrate syndromes in which perhaps the drug may prove of special value. The first was a case of "masked" depression with extreme hypochondriasis, a condition often notoriously difficult to treat. The second was a case in an old lady of 85, where it was not easy to decide clinically how much her disturbance was due to intellectual deterioration and how much due to depression. Although psychological testing may be helpful diagnostically in such a case, frequently one is faced with a therapeutic trial of ECT which may lead to rapid worsening of the patient if the dementia is more than minimal. Imipramine would seem to provide a better method of therapeutic testing.

CASE 1.—MRS. E.S.

This 50-year-old childless married woman had suffered griping abdominal pains for the last 15 years. All her life she had had various physical ailments, commencing with a "fallen stomach" at the time of her menarche at 13, for which she had had comprehensive physical investigations. Over the last six or seven years her weight had gradually fallen by some 23 lb., and four months earlier she had taken 50 Nembutal tablets in a suicidal attempt. According to her physician, she made life impossible for her husband by her constant complaints. At admission, she weighed

111 lb. and was extremely importunate, constantly complaining of abdominal pain, nausea and cramps. She made frequent demands of the nurses, cried out, refused her diet, back rubs and nursing attention, frequently called for the resident doctor, pulled her hair and said she felt very weak. During this period of time she was given a free diet with a considerable amount of milk and encouraged to get up. However, she stayed in bed and often refused her food.

Eight days after admission she was given imipramine, 50 mg. 4 times a day. She stated that these pills relieved her abdominal distress and then said that she felt better, but the nursing notes revealed that she was also complaining of feeling terrible at times. However, during the next three days she was drowsy and more cheerful, resting at intervals, and was much more content and less importunate. In these first three days she was receiving a placebo medication which was then changed to the active compound. At that time she became definitely more somnolent, spending a considerable amount of each day dozing or sleeping. From then onwards, there was a steady improvement. She became more outgoing and cheerful, got up, visited occupational therapy, took part in finger painting and various social activities. She ate well, mixed with other patients in the ward and generally became a changed person.

At the time of her discharge from hospital, she had gained 12 lb., which was better than her best weight at any time. A month after discharge she had gained a further 14 lb., which was 26 lb. over her hospital admission weight. She felt that before treatment food did not do her good, no matter how much she ate. Now, she was having a lot of bananas and milk and considered that they were doing her a great deal of good. She felt more contented than ever before, and had been listening to her radio for the first time in 10 years.

Certainly, during her hospital stay she had received other sources of satisfaction, namely nursing attention, occupational therapy and the solicitation of the doctors. However, once she had returned home, her life pattern reverted to the previous emptiness of which she had formerly so bitterly complained. Nevertheless, her marked improvement continued in this dramatic fashion and was confirmed by her husband. It is, of course, too early to say what the long-term prognosis will be.

Although she was started on the double-blind trial and in retrospect showed improvement during the first three days of placebo, she was removed from it at the time because we had had no experience with the drug in cases of such extreme hypochondriasis. Hindsight would suggest that it would have been better to continue with the placebo for at least the 14 days of the trial.

CASE 2.—Mrs. E.P.

This 85-year-old woman had not been well since her son was killed in a car accident three years previously. She had been troubled by shortness of breath and palpitations and became increasingly weak and nervous. When she was admitted, she was extremely sleepy and lethargic and in a near stuporose state. She showed evidence of mild congestive heart failure with a blood pressure of 150/90 mm. Hg on admission and some swelling of the ankles and crepitations in the chest with an irregular fibrillating pulse of 100. She improved little on routine treatment for heart failure and when seen in psychiatric consultation three weeks later was extremely withdrawn, making few responses and appearing to have limited comprehension. She required spoon feeding and was doubly incontinent at times. Imipramine in a dosage of 50 mg. 4 times a day was commenced, and she made a slow but steady improvement over the next seven weeks, when the drug was stopped. At this time, she was getting up for part of each day, conversing normally with the nurses and other patients, correctly oriented, feeding herself and attending normally to her toilet. She continued to improve and when discharged several weeks later, her behaviour was near normal although she still had some memory defect.

Thus it seemed that her former incapacity had been predominantly depressive and her disability from organic cerebral disease minimal.

RESULT OF DOUBLE-BLIND TRIAL

The guess of three observers whether the patient was on active compound or placebo was wrong in as many cases as it was right. At the end of two weeks there was no dramatic change in any of these 12 patients. Two on active drug and two on placebo showed an improvement of rating scales of sufficient percentage to be classified as "improved". The rating scores of the patients on placebo actually showed a greater diminution (mean 3.3) than those on active compound (mean 1.5), but this difference was not statistically significant. There was no difference between the two groups as judged by severity of symptoms on initial rating.

SIDE EFFECTS

Side effects were notably absent. In two cases, symptoms of dizziness and giddiness in the first 48 hours of medication were diagnosed by the attending physicians as orthostatic hypotension, and the drug was discontinued. These patients were not included in the present series. However, taking the recumbent blood pressure twice daily in all other patients revealed no hypotension. Sweating was noticed in the majority of patients. One case of photosensitivity in an out-patient, not one of this series, was also noted. All patients had routine urine tests, full blood counts and serial liver function tests, and serum bilirubin, thymol turbidity, bromsulfalein, serum alkaline phosphatase and serum transaminase determinations at two-weekly intervals. No abnormalities were noted in any of these tests. The majority of patients required extra night sedation, up to 600 mg. sodium Amytal.

FOLLOW-UP

Only four of these patients are permanently off the drug. In a number of the others, where the longest period since discharge from hospital is some four months, placebo medication has been interspersed with the active compound, and in all cases this has resulted in a worsening. Other pa-

tients have been taken off the drug only to worsen and have been placed on it again.

DISCUSSION

The overall improvement rate is a good one and even somewhat better than that produced by ECT. Thus, in a series of 101 patients with depression treated with ECT, improvement as judged by the same criteria was 73%.[7] Recovery was usually gradual and there seemed to be no dramatic change in the patient, such as may occur early on with ECT or perhaps at times with iproniazid. Rather, they became more tranquil or easily able to bear their own guilty feelings and to tolerate being in hospital. Nevertheless, there were some patients who, after a variable period, suddenly showed a swing into euphoria, almost hypomanic in intensity, with accompanying sudden acquisition of insight into their previous illness. Most notable were two patients with extreme incapacitating hypochondriasis who changed from importunate bodily preoccupation to a cheerfulness startling alike to relatives and medical attendants. It would seem that the drug made it easier for the patients to bear with themselves, to become less self-punitive, whether manifested by guilt or somatic dysfunction. We postulated, perhaps rather fancifully, that the drug might be regarded as a solvent of the superego. Moreover, it enabled the doctor to resist both the demands of relatives and his own conscience to "do something", albeit somewhat less dramatic than ECT.

The result of the double-blind or "controlled" study was interesting, although its value was limited by the few patients involved and the short duration of the trial. The finding was markedly at variance with Lehmann's experience with a much larger group. However, there is a significant difference between the two experiments. The majority of his patients had been in hospital over some period of time and almost half were chronic patients who had been both in hospital and under treatment for a number of years. Thus, it might be considered that this sample had reached a plateau and any new treatment introduced could be better judged as a fresh variable. Also, the placebo was introduced after a period of active medication. In our patients, conversely, it was prescribed randomly at the time of hospital admission. Clearly, therefore, we must assess the "regressive" gratification, particularly of a depressive illness, resulting from hospital admission. The patient is removed from the stresses and strains of a home environment to be taken care of, fed, given medicine and generally protected. Thus, in our small group two factors were at work: the improvement that might be expected from introduction to this general therapeutic milieu and the specific pharmacological action of the drug.

Certainly, we consider both from this study and another one that the drug is potent pharmacologically and may frequently give clearcut effects in less than 14 days. Our failure, therefore, to demonstrate a marked difference between its effect and that of a placebo in depressed patients in the first two weeks in hospital perhaps might mean more that we have tended to underestimate the value of hospital admission *per se* in such conditions. Thus, we know that depressive illness even at its greatest severity is not a killer, provided that nutrition is maintained and suicide guarded against. The number of patients in whom these factors cannot be handled in hospital are few. The natural history of the disease is towards remission. Therefore, we wonder what proportion of patients who are considered these days suitable for ECT at the time of hospital admission would spontaneously improve if merely left alone. We suspect that it may be much higher than is customarily believed.

Ever since the advent of ECT, institutions known for their conservative approach have secured a significant proportion of recoveries in depression merely by hospital admission and no specific physical or drug therapy.[8] We would certainly echo Lehmann's remarks that "psychiatric tolerance to depressive symptoms in patients has been so much reduced during the last 15 years that many psychiatrists may find it difficult to wait two or four weeks before seeing a definite lifting of depression in their patients". Nevertheless, the ultimate proof of the efficacy of the treatment of the disease may be better judged by the long-term results over a period of five or ten years than the immediate improvement, gratifying though it be to the attending physician. We consider that depressive illness frequently results in a period of morbidity of some 12 weeks, and harm may perhaps be done by attempting an undue shortening of this period of sickness. Certainly, in cyclical illnesses we are faced always with the possibility of remission and recurrence. To date, so-called maintenance ECT has not proved to be effective.[9] Whether "maintenance" therapy with imipramine or some other drug would be necessary for manic-depressive depressed patients is premature to say. Certainly, at present this is one of the big questions in therapy with this drug. However, we still have no great continuing success to offer such patients by other treatments. The situation may be comparable to schizophrenia, in which we already know that phenothiazine needs to be maintained over a considerable if not indefinite period of time. Thus, we would like to see an extension of a controlled study to a greater number of patients for a period of some six to eight weeks.

Secondly, we would like to see how the drug compares with ECT in similar patients. The only way this can reasonably be discovered is again to randomize patients between imipramine therapy and ECT. We have initiated such a study and the results will prove interesting. This is not the place to discuss the pros and cons of the double-blind method. We are certainly aware of the pitfalls of such investigations, which have recently been

discussed by Tuteur.[10] Objective assessment of clinical findings is always complex and difficult. To select target symptoms which are expected to improve and score these introduces some greater precision of observation. Where such a numerical method compares well with independent clinical judgment, we are entitled to attribute to it a certain value and reliability. We consider that this obtains in depression and in the present study. However, the value of clinical observation is not to be underrated. Nevertheless, one must not lose sight of the fact that a doctor uses a new remedy in proportion to his belief in its efficacy. Frequently, Osler's remarks that one should use a new drug whilst it still works are echoed. One of the greatest values, it seems to us, of introducing a double-blind study is that it diminishes to some extent the force and vigour with which the doctor prescribes his remedy. Thus, it is more difficult for him to be as convincing and persuasive when he is not sure whether the drug he is administering is a placebo or an active compound. We think that this is valuable because it somewhat reduces the psychological power of the doctor and perhaps allows us the better to assess the pharmacological effect of a drug. This guards against overvaluation of the drug under trial. However, in our study less than half the subjects were controlled in this way.

Similarly, we consider it would be presumptive to enter upon a discussion of endogenous versus reactive depression. Perhaps it would suffice to say that we do not consider that such a differentiation should be the decisive factor in apportioning physical or drug treatment to the one, namely endogenous, as against the other, reactive, which would receive psychotherapy. One of the militating factors against psychotherapy in endogenous depression is frequently the severe narcissistic withdrawal of the patient and the difficulty of establishing rapport. Here, it would seem to us that a drug such as imipramine may have a great role to play. Thus, as Ostow[11] has suggested, a drug therapy of depression may help us to establish psychotherapeutic contact. Certainly, this was true of our experience with imipramine, although none of these patients received formal psychotherapy. This improvement of contact similarly makes the patient more amenable to the general therapeutic facilities available within the hospital. How much of the ultimate benefit derives from such "non-specific" factors is difficult to determine. From the use of the drug in out-patients where the life situation remains the same but the patient improves, we would suspect that there is a change of self-concept and intrapsychic reorganization. Our subjects were too few to decide which features of the illness were differentially affected.

In a general hospital there is much to be said for the use of drugs rather than ECT. The period of confusion is reduced, the stigma of the patient who receives a treatment leaving him dazed and bewildered for some hours afterwards in a general medical ward is reduced, and above all the nurses begin to regard the patient in a different, more humane and empathic way. In our experience this change of nursing attitude towards patients who were receiving drugs rather than physical treatment was a most notable one.

Conclusion

Imipramine seems a new and potent weapon in our therapeutic armamentarium. It is as applicable to the practice of a general hospital as to that of a mental or psychiatric one, and its uses may lie beyond the field of endogenous or spontaneously occurring depression, perhaps in the depression associated with chronic physical disease.

The mode of action of the drug remains obscure. Ultimately, we will understand more about its biochemical and neurophysiological action.[12] Certainly, it is helpful in psychological terms to view this drug as an alleviator of self-punitive thought, guilt, conscience or superego, whatever we may call it. Thus, it may be that its chief role will be in the depression characterized, as Lehmann says, by an affect of despondency, bitterness or morbid guilt. However, we propose to extend our observations to depression associated with other conditions.

Summary

Imipramine (Tofranil) was administered to 30 patients with depressive illnesses, the majority suffering from manic-depressive depressed psychosis.

These were all patients with psychiatric illness of the kind referred and admitted to wards of a general hospital. The criterion of selection was a severity of symptoms justifying the use of ECT. Eighty per cent recovered and the mean hospital stay was five weeks. These results were comparable to, if not somewhat better than those of ECT.

It is postulated that such an effective drug therapy may help to integrate the practice of psychiatry better with general medicine. Depression may be treated earlier and more effectively by the patient's own doctor. The subsequent follow-up in a cyclical recurring disease may also be a better one and the total period of morbidity over some years reduced by such means.

A separate out-patient study has been equally encouraging. Anxiety, where present, seemed unaffected. The drug probably has to be continued over a considerable period of time and remission may follow withdrawal.

The result of a double-blind controlled study showed that it was impossible to distinguish between placebo and active compound over the first two weeks of hospital admission. Similarly, the improvement produced by the active drug was no better than that caused by the placebo during this time. This result is discussed in terms of perhaps underestimating the value of hospital admission *per se* in gratifying the needs of the depressed patient. Such studies need to be extended.

It is concluded that imipramine is a useful drug in the treatment of depression; further work may clarify its best usage.

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RÉSUMÉ

Trente malades (8 hommes, 22 femmes) dont l'âge varie entre 33-85 ans, souffrant de diverses formes cliniques de dépression, furent traités durant cinq semaines en moyenne dans un Hôpital Général où le milieu thérapeutique est différent de celui d'une institution mentale. Tous ces cas à l'admission auraient justifié l'emploi des électro-chocs avant l'introduction de l'Imipramine. Quatorze furent diagnostiqués psychoses maniaco-dépressives de forme dépressive, allant de la stupeur mélancolique jusqu'à l'agitation dépressive; trois dépressions névrotiques; cinq cas d'hypocondrie; une psychose puerpérale et sept psychoses séniles.

L'Imipramine fut utilisée généralement par voie orale à la dose de 50 mg. q.i.d. Dans certains cas particuliers et pour des raisons thérapeutiques la voie intra-musculaire ou intra-veineuse fut employée. La dose maximum d'Imipramine chez certains malades atteignit 600 mg. par jour sans apparition d'effet toxique. Dans ce rapport préliminaire la toxicité de l'Imipramine s'est révélée nulle. Cependant la majorité des malades se plaignirent d'une transpiration abondante. Les divers examens de sang et d'urine n'ont pas montré de changements attribuables au médicament.

Douze malades de cette série furent choisis pour un "double blind". Six reçurent de l'Imipramine et six du placebo. Le résultat de cette expérimence à la fin de deux semaines d'observation ne fut pas concluant. L'amélioration obtenue par le médicament ne fut pas supérieure à celle produite par le placebo.

En général les résultats obtenus par l'Imipramine durant cinq semaines d'hospitalisation sont assez encourageants: 80% des malades sont guéris et sont suivis à la clinique externe. Il est probable que cette thérapeutique doit être continuée pour une longue période de temps afin d'éviter les rechutes. L'introduction de ce nouveau produit dans l'arsenal thérapeutique psychiatrique présente un grand intérêt pour le médecin non spécialiste. Le médecin de famille peut actuellement grâce à l'Imipramine traiter les premiers symptômes de dépression et éviter l'évolution d'un tel syndrome. A.H.

IMIPRAMINE (TOFRANIL*): A SAFE, EFFECTIVE ANTI-DEPRESSANT DRUG IN PRIVATE PRACTICE

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SINCE THE ADVENT of "psychopharmacology", which began when chlorpromazine proved itself to be such a widely useful drug, there has been a mounting deluge of new drugs into areas of psychiatric interest, and a multitude of reports, papers, claims and counterclaims about the clinical effectiveness of these agents, together with many reports of their side effects and complications. An interesting by-product has also been the renewed emphasis on the difficulties of controlled clinical research in such a complex clinical field, where it is difficult to define diagnosis accurately, or to evaluate degrees of morbidity, and where the factors responsible for improvement or recovery in a given patient produce disagreement among the observing experts. Feldman[1] presented evidence that all research workers are not uniformly successful in their evaluation of the clinical effectiveness of new drugs, and he related this to the emotional bias and attitude of the investigator, as a determining factor in the results. This report came from the Menninger Clinic, where, under relatively standardized investigative conditions, the staff members obtained widely divergent results with the first clinical investigations of chlorpromazine. Attempts to objectify the investigation of drug results have led to the use of "blind" and "double-blind" techniques, or the development of rating scales of various sorts. The latter seem to this writer to be unwieldy, and add confusion to the interpretation of the results offered. Tuteur[2] has called attention to the pitfalls, fallacies and limitations associated with the double-blind study method. He has pointed out that in many investigators it leads to an unwarranted sense of security. An incidental development of much interest in this whole movement has been to focus attention again on the place of the placebo, and on other non-specific therapeutic elements in the hospital setting which foster a sick patient's improvement. Bartemeier,[3] in an interesting paper, pointed out that there is a need to evaluate again and again what milieu factors in the hospital environment have produced favourable modifications of mental illness in patients who recover in a hospital setting where there is a minimum of professional personnel and assistance. According to recent reporting[4] of a Conference on Tranquillizers in Montreal, called to consider the psychodynamic, psychoanalytic and sociological aspects of tranquillizing drugs, Dr. R. W. Hyde expressed the views of his committee that the milieu is most important, and the drug effect is relatively non-specific. The conference experts were said to have expressed widely divergent views about the reasons for the clinical effects of any drug, and disagreed about the ways in which improvement changes are effected. Paul Hoch[5] has succinctly stated recently: "Regardless of the

*Product of Geigy Pharmaceuticals.

methods you use today in psychiatry to observe behaviour changes, the only method which can be used despite its many shortcomings is the clinical one. Any attempt to replace it in the present state of our knowledge by all kinds of so-called scientific constructs is doomed to failure." My own view is precisely similar, in that I feel that careful clinical observation is invaluable in assessing a new drug. Any claim for results that are merely the product of the investigator's enthusiasm will be tempered, confirmed or rejected by the observations of other researchers.

The tranquillizers have signally failed to be of help in dealing with depressed reactions. As a matter of fact, these agents have been described as fostering the development of depressed reactions in many patients *by inhibiting motor activity through which agitation and tension would be discharged to some degree.* Those drugs which have been in common usage as pharmacological agents for relief of depressed states have been singularly ineffective. Amphetamine, dextroamphetamine, pipradrol, methyl phenidate, methamphetamine and Deprol (meprobamate and benactyzine) are generally of limited value in the hands of most psychiatrists in aiding the clinically depressed patient. Marsilid (iproniazid) was first used in the treatment of tuberculous patients, and was observed to produce a euphoriant effect, but proved unsuited for psychiatric use because of severe toxicity.[6] The only persistent, reliable and effective way of influencing the course, duration and severity of a depression has remained the judicious use of electroshock treatment, when supported by other appropriate measures and carried out in a psychotherapeutic setting.[7]

Recently, the first few reports have appeared about a new antidepressive drug, called imipramine (G22355 or Tofranil). Kuhn[8] described his experiences with the treatment of more than 500 patients over a three-year period with this drug. He described the drug as having a potent antidepressant action, best results being obtained in the group of endogenous depressions. Side effects in his series were slight with the usual dosages up to 300 mg. a day. The precise mode of action was unknown. Azima and Vispo[9] reported on 63 patients treated either as private patients or outpatients. Of their depressed patients 83% were significantly improved. This was emphasized as a rather notable result, since these patients were described as having intractable depressive states. Perhaps on this account, they advised the long-continued usage of the drug, otherwise there was a tendency to relapse when the drug was discontinued too early. Lehmann, Cahn and DeVerteuil[10] also reported the treatment of depressive states with imipramine. Of 84 patients in their hospitalized series 60% were recovered or much improved after eight weeks. They described it as a relatively nontoxic drug in doses under 200 mg. a day. The drug was described as a new chemical agent, having primarily an inhibitory action on the central nervous system. Wortis,[6] in summarizing the psychiatric drug advances of 1958, describes imipramine as an iminodibenzyl derivative, with the same side-chain as chlorpromazine but a different ring system, and says, "It is said to be very effective in depressions." Jaundice has been reported, also photosensitivity and visual disturbances due to its atropine-like action, but the general toxicity is claimed to be low. Thus far, there are only three reports on this drug in the literature, though many more will surely follow as it becomes released for more general use.

PERSONAL EXPERIENCE

My present impressions of imipramine have been based on the observation of 26 patients from my private practice to whom this drug was given. After approximately six months of experience, it is my feeling that imipramine is the most effective and the most promising drug ever to appear for the treatment of depressive conditions. The dosage schedule was rather lower than that already reported for patients in hospital. The starting dose given was 100 mg. per day in four divided doses. In all but two cases, this appeared satisfactory, and in these two the dosage was increased only to 150 mg. per day. In the others, it was possible to reduce the dose after improvement was noted, and to taper the dose before the drug was discontinued altogether. The time of improvement varied from the second day on the drug in one patient, to the more average onset of improvement between 10 to 14 days after starting.

Perhaps because of the low dosage used, the only side effects complained of were attacks of sweating in five patients, which disappeared on a lowered dosage schedule. Five patients discontinued the use of the drug within the first few days because of complaints related to atropine-like effects, such as "haziness", uncomfortable head feelings, or listlessness. Since this is an ambulatory patient population, it was not possible to persist with the drug in these instances by introducing suitable modifications. No complications were noted in this series. A mild transient leukocytosis occurred in several patients, also a minor reduction in blood pressure. Laboratory studies were not energetically pursued, but where spot checks were done, there was no disturbance or change evidenced in renal or liver function. No allergic reactions developed. The drug did not interfere with sleep.

The typical change reported by improving patients was that there was no special response felt to the individual dose, no lift of mood, no spurt of energy, but as the days passed, the depressive symptoms were rapidly relieved and the patient simply got well. This effect is the more dramatic, as some of the patients in this series were suffering from severe agitated depressions, which

TABLE I.—SUCCESSFUL CASES

Case	Sex	Age	Diagnosis	Previous history and treatment	Daily dose	Results	Side effects
1	M	69	Agitated depression	Hospital and E.S.T. twice before	100 mg.	Recovery	Sweating
2	F	53	Agitated depression	Hospital and E.S.T. + drugs	100 mg.	Recovery	None
3	F	64	Agitated depression	Hospital and E.S.T. + drugs—4 previous occasions	100 mg.	Recovery	None
4	F	58	Retarded depression	Hospital and E.S.T.—3 previous occasions	100 mg.	Recovery	None
5	M	47	Agitated depression	Hospital and E.S.T. twice before	100 mg.	Recovery	Sweating
6	M	49	Obsessional-ruminative depression	Hospital and E.S.T. twice; suicidal attempt	100 mg.	Recovery	None
7	M	40	Reactive depression	Repeated examination and sedation + psychotherapy	100 mg.	Recovery	None
8	F	75	Arteriosclerotic depression	Variety of drugs + hospitalization	150 mg.	Recovery	None
9	F	56	Circular M.D. depression	Hospital and E.S.T. Considered for lobotomy after 11 years	100 mg.	Recovery	None
10	F	58	Involutional depression	Hospitalization + insulin + drugs	100 mg.	Recovery	None
11	F	51	Recurrent depression	6 previous attacks. Hospital and E.S.T.	100 mg.	Recovery	None
12	F	57	Obsessional neurosis: repeated depression	Hospital and E.S.T. 3 times + drugs to addiction + psychotherapy	100 mg.	Recovery	None
13	M	60	Depression; glaucoma	Hospital and E.S.T. 3 times	100 mg.	Recovery	None
14	M	54	Depression: irritable colon	Hospital and E.S.T. psychotherapy + drugs	100 mg.	Improvement	None
15	F	63	Circular M.D. depression	E.S.T. 6 times + interval E.S.T.	50 mg.	Improvement	None
16	M	46	M.D. depression	E.S.T. 4 times before	150 mg.	Improvement	None
17	F	29	Schizo-affective	Hospital and E.S.T. + drugs + prolonged psychotherapy	100 mg.	Recovery	None
18	F	44	M.D. depression, hypothyroidism	Hospital and E.S.T. + drugs + prolonged psychotherapy	100 mg.	Improvement	Sweating
19	M	43	Schizo-affective	Somatic complaints. Drugs + psychotherapy	100 mg.	Improvement	None
20	F	56	Circular M.D. depression	Hospital and E.S.T. 3 times + drugs + psychotherapy	100 mg.	Recovery	None
21	F	40	Circular M.D. depression	Hospital + drugs and prolonged psychotherapy	100 mg.	Improvement	Sweating

TABLE II.—UNSUCCESSFUL CASES

Cases	Sex	Age	Diagnosis	Previous history and treatment	Daily dose	Results	Side-effects
1	F	37	Severe obsessive depression	Hospital and E.S.T. in 2 previous attacks	100 mg.	Stopped 3 days	Listlessness
2	M	53	Severe obsessive depression	Hospital and E.S.T.	100 mg.	Stopped 7 days	Listlessness
3	F	42	Schizo-affective	Hospital and E.S.T. twice	100 mg.	Stopped 3 days	Listlessness
4	F	39	Mixed psycho. depression	Drugs and prolonged psychotherapy	100 mg.	Stopped 3 days	Listlessness
5	F	63	Schizo-affective paranoid	Hospital + E.S.T. twice	100 mg.	Stopped 4 days	Listlessness, dry mouth

in identical attacks in the past had necessitated hospital admission, electroshock and other supportive measures. Illustrative cases will be briefly presented below to demonstrate the kind of case material in the study.

RESULTS

A quick glance at Tables I and II indicates that a total of 21 patients out of the 26 recovered from their depression or were vastly improved. This gives a recovery and improvement rate of approximately 80%, which is similar to that already claimed in the few published reports on this drug. The five patients who did not improve all stopped the medication prematurely, claiming unpleasant listlessness, "hazy feelings", or dry mouth. Persuasion to modify and continue the schedule failed to lead to resumption of the drug. It is worth noting that in at least three of these five patients the use of any other drug was equally hesitant and anxiety-laden, because of intense fears of any change in reality assessment and fears of loss of control.

ILLUSTRATIVE CASES

CASE 4.—This 58-year-old woman had a history of four episodes of retarded depression during which she became anorexic, lost weight and sleep, could not think, was regressed and lost interest. Filled with suicidal preoccupations. First attack 24 years ago after failure of her marriage. She was then in an institution for 13 months before recovery. Second attack in October 1955, reactive to problems in a second marriage. She was admitted to a psychiatric service in a general hospital, received E.S.T. and recovered in six weeks. Her third attack was in April 1957, with identical complaints, which again responded to hospital care and E.S.T. in six weeks. In October 1958, she was again depressed, "vacant", "no thoughts", "like wires in the head", "can't sleep", "no memory", etc. Started on imipramine 100 mg. daily—she felt im-

proved by the third day and after 10 days all her symptoms were gone. The drug was continued two weeks longer on a reduced dose, then stopped. The patient continues quite well to the present.

CASE 9.—This 58-year-old woman had a history of circular manic depressive psychosis of 11 years' duration, since the beginning of her menopause. The manic excitement was difficult but manageable with heroic doses of sedative. The depressions were severe, and becoming more prolonged and unresponsive to any treatment. She had had several courses of electroshock, subconvulsive shock, hospital admissions and drugs of every variety, including a prolonged fruitless trial of Marsilid. She is mentally borderline, and never available to psychotherapeutic exploration. Her last hospital admission was three months in duration without improvement. Lobotomy is considered as a therapy in reserve. She was started on imipramine 100 mg. a day and began to improve after 10 days. She has been continued on a maintenance dose of 50 mg. a day for the past three months and is enjoying the first interval of improved health since the first onset of the illness.

DISCUSSION

The clinical results in these cases are most gratifying. While this represents a small series, it is noteworthy that imipramine gives every promise of being a drug which can be safely prescribed in office practice. Furthermore, this drug is effective in those cases which previously have given only a barren response to the use of other drugs. It is my impression that imipramine will help to reduce the number of patients who will require electroshock treatment and hospital care. I would emphasize most emphatically that imipramine, or any other drug or single therapeutic aid, should only be utilized as part of a larger psychotherapeutic program. It is an illusion to look for the magic pill which will represent the final solution to the problems of mental illness.

Imipramine deserves the extensive clinical appraisal and testing it will undoubtedly receive. The indications at present are that it is most effective in relieving depressed states, but it may have a much wider range of usefulness in the relief of pain, in geriatric cases, in organic confusional states, etc. In this small series of patients the results were poorest in those patients who manifested marked schizoid features in the total picture of the illness.

The mechanism of action is not clear. From the clinical response alone, imipramine appears to behave more like a sedative than a stimulant. As previously noted, it does not interfere with sleep, and can in fact be taken at or near bedtime. It resembles chlorpromazine in certain respects, but without the reduction in motor function or the general inhibition seen with the ataraxics. Imipramine behaves like a sedative, but characteristically appears to facilitate verbal flow and general motor activity. The problem of addiction cannot be assessed until this drug is used over a much longer period of time.

SUMMARY

Imipramine (Tofranil) is described as a safe, effective antidepressant drug.

Clinical observations are reported on its use in 26 depressed patients from private practice. A recovery or marked improvement rate of 80% is obtained in this series.

No significant toxic side effects were seen. Imipramine appears to be safe in doses which are clinically effective.

Extensive clinical trials are warranted. It appears to the author to be the most promising drug ever to appear for the relief of states of depression. The development of specific indications for its use, and proper selection of patients, will reduce the need for hospital admission, electroshock and other ancillary measures.

The Tofranil was kindly supplied for investigation by Geigy Pharmaceuticals.

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RÉSUMÉ

L'auteur décrit les résultats que donna l'imipramine (Tofranil *marque déposée*) dans le traitement de la dépression chez 26 cas de ville. Une forte amélioration fut obtenue dans 80% d'entre eux. Il n'observa aucune manifestation toxique. L'imipramine peut être employée sans danger en doses thérapeutiques. Bien que ce médicament doive encore être l'objet de recherches cliniques étendues il semble à l'auteur que, dans le traitement des états dépressifs, ce soit le produit le plus efficace qu'on ait obtenu à date. Lorsqu'on aura déterminé les indications précises de son emploi ainsi que le genre de malades auxquels elle convient le mieux l'imipramine diminuera le nombre d'admission aux hôpitaux, le besoin de recourir aux électrochocs ainsi que l'application des mesures accessoires.

ASPIRIN STATISTICS IN THE SPACE AGE

"According to the U.S. Department of Commerce, production of acetysalicylic acid in 1958 reached an all-time high of 20 million pounds. At the rate of 7000 grains to the pound, five grains to the tablet, this could be translated into about 28 billion aspirin tablets or 14 billion aches. From the present state of the world, we would guess this to be a conservative estimate. For additional arithmetic doodling, a standard aspirin tablet would be seven-sixteenths of an inch in diameter and one-sixth of an inch thick. End-to-end, then, our billions of aspirin tablets would circle the world just about eight times. One on top of the other they would make a very unstable column reaching more than one-fourth the distance to the moon."—*Drug and Cosmetic Industry*, January 1959.

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MEDICAL EDUCATION – A COMPROMISE

One of the interesting things about human life is the frequency with which it is impossible to predict correctly the outcome of our actions. This, of course, is a reflection of the multiplicity of factors which influence even comparatively simple human activities.

An interesting example of the futility of making simple *a priori* assumptions has recently been reported in an analysis of the effects of imposing a charge on prescriptions in the British National Health Service. With the idea of curbing prescribing and cutting down costs, the U.K. Ministry of Health introduced a small charge for prescriptions –first on the basis of each prescription form filled in, and later on the basis of each individual item prescribed. Analysis of the effects of these measures by Martin and Williams (*Lancet*, 1: 36, 1959) shows that the first measure was counteracted by doctors writing more prescriptions per form, and the second by doctors prescribing larger quantities of drugs and more expensive drugs. In fact, the calculations of the experts in the Ministry of Health for introducing these charges had been absolutely correct but for one thing–they had completely miscalculated the reaction of the doctor.

In the first article in this issue of the Journal, Dr. Thompson gives us a glimpse of the many factors which shape the policies of faculties of medicine and therefore affect the education of medical students. When one reflects on the problems created by this interplay of many diverse pressures, one wonders how the faculties of medicine succeed in turning out anything like an approximation to a satisfactory doctor, and how the effects of experiments in the curriculum can be even approximately predicted.

During the last week of August, medical educators of the world will be meeting in Chicago under the auspices of The World Medical Association to discuss education of the doctor after graduation. Six years ago they met in London to discuss his formation in the university, and one might well ask whether, in view of the complexities of the problems involved, they should not be devoting some time in Chicago to considering what effect the 1953 meeting has had on undergraduate education.

In his Matheson Shaw lecture in Edinburgh last November, Professor Arnott of Birmingham described the main attributes which a university sets up to foster as "love of learning and discovery, intellectual humility, and a moral outlook which places high standards of work and intellectual honesty far above material profits". He then divided the factors bearing on these aims into three broad groups: (1) the organization and physical features of the university; (2) the quality and outlook of the teachers in the university; (3) the type and quality of the students. Each of these main groups contains a large number of sub-groups. Thus, for example, the first group is closely related to economics; the nature of the student life is closely related to money. For instance, Arnott makes out a good case for the residential university in which all students live together. He cites the case of the University of Aarhus in Denmark, where the farsighted Danes have provided extensive halls of residence including double quarters for married students and a crèche where their progeny may be looked after while the parents are at classes. But all this costs a great amount of money, and indeed it would cost over $250,000,000 to make the universities in the U.K. completely residential.

Economics must also enter into the second group of factors. A recent editorial in *Nature* points out that when the universities are recognized as effectively fulfilling their function of supplying the large numbers of well-educated men and women needed by the community, public esteem will put them in a position in which they are able to attract the ablest young people to their faculties. Public esteem, and only public esteem, can give the solid financial backing necessary. The editorial writer suggests that university teachers themselves can do something to encourage public understanding of their role.

When we come to the third group–the type and quality of students–opinions differ. Arnott himself gives it as his impression that the general standard of intellect and industry in the medical student of today in Britain is at least as high as when he was young, and perhaps higher. Others shake their heads over both quantity and quality of students, while the optimists wait for that "bulge" in the population both in North America and in Europe which will produce a larger population of young people on which to draw–a tidal bore, as Arnott terms it, bearing down upon the universities in the near future.

Dr. Thompson and several other contributors to this issue point out shortcomings of the medical curriculum. It is well that these shortcomings should be pointed out, but it is well that we should also understand that there is no ideal curriculum,

that if there were we probably could not carry it out, and that medical education, because it is subjected to so many complex factors, must remain a compromise, though of course the best compromise we can make. And inevitably the compromise will be different in different places and at different times.

Editorial Comments

OUR RESPONSIBILITY TO MEDICINE

Last fall, Dr. Elmer R. Stewardson,* the President of the College of Physicians and Surgeons of Saskatchewan, gave an address to the Swift Current and District Medical Society in which he made some pertinent remarks on recruitment for the medical profession. Over the period of a year he had noted repeated reference to the lack of applicants for the medical colleges of Canada, and in November 1958 had read the press report of the Dean of Medicine to the Senate of the University of Saskatchewan, in which reference was made to a lack of medical bursaries and scholarships and the possible inadequacy of loan funds for worthy students. Conceding the importance of these, he went on to say:

"After the war, a large ex-service population applied for admission to university courses, and the medical colleges especially felt the impact. These applicants were older people. They knew what they wanted—the government made it financially possible in a limited way—and they bent their backs to the course. Accordingly their marks were good and for a youngster to compete with them he had to be a bright and dedicated student.

"So the impression developed rapidly that to be accepted into medicine a boy had to be just one step short of a genius, and our teachers in collegiates could do nothing but discourage the normal, average, good type of lad from medicine; at the same time, other vocations and professions openly courted the students by offering help and advice and personal interest.

"And all the while we doctors failed in our duty —often, in conversation, have not you and I said:

1. Anyone who enters medicine is most foolish.
2. Twelve years is too long [note the error in time].
3. Fifteen thousand dollars is the cost [note the error in amount].
4. I wouldn't want my son to go through what I have gone through.
5. Life is too short—there are too many other opportunities.

"And many other reasons.

"There is no need for me to dilate on any single one of these reasons—they are all groundless.

"I have great pride in my profession of medicine, in my ability to help relieve the suffering of some, and to be kind and reassuring to those whom I cannot help. I shall still be proud and happy to do this no matter under what conditions of practice. It is my privilege and yours—we are the most educated of the professions—let us also be the most intelligent; let us entice the right type of boy or man into our profession; let us go away out on a limb and help him financially, if necessary. Let us support our medical college and let us fulfil our oath to medicine, to teach our art and our science to others.

"Gentlemen, let us never do a mean or shoddy thing—let us practise wisdom and understanding so that we may give sound advice and wise counsel to those who seek it. Let us be proud of our profession always.

"This is what I wanted to bring to you today. I hope by next year that this society or individual doctors here will be responsible in part at least for directing and maybe helping some worth-while lad into medicine; if so, I shall have accomplished something very worth while by my talk today."

*Dr. Stewardson has given permission for this material to be used appropriately in the recruiting of medical students—J. W. Macleod, M.D., Dean of Medicine, University of Saskatchewan, February 12, 1959.

KERATOACANTHOMA

During the past decade dermatologists and pathologists have become aware of the importance of keratoacanthoma.[1-8] Histologically, this tumour closely resembles a well-differentiated squamous cell carcinoma. The basic difference is that a keratoacanthoma will disappear spontaneously, while a squamous cell carcinoma will not. Clinically, keratoacanthoma is not an uncommon tumour, usually occurring on the face. It has a large central keratin or horny plug surrounded by smooth convex sides. A few telangiectatic vessels may be seen on the surface. There is no infiltration at the base. Usually the diameter is from 1 to 2 cm. The lesion develops its maximum size in 4 to 12 weeks and then slowly regresses in 8 to 16 weeks, leaving a smooth atrophic scar. Veidenheimer and Fidler[7] estimate that keratoacanthomas are one-third as common as squamous cell carcinomas; Linell and Mansson[6] claim that about 20% of tumours formerly diagnosed as squamous cell carcinoma turned out to be keratoacanthomas.

Histologically, a well-developed lesion shows a large central volcano-like crater filled with keratin. The walls of the crater are formed of hypertrophied and downgrowing non-malignant epidermis. The basal layer is intact, and there is no dropping off of squamous cells into the corium. The proliferating epidermis closely resembles that seen in pseudoepitheliomatous hyperplasia (as seen in bromoderma, the edges of chronic ulcers, radiodermatitis, etc.).

There are at least three types of keratoacanthomas. (1) The most common is the solitary type, usually occurring on the face and closely related to the normal ageing of the skin, due principally to sunlight. This occurs in patients over 45. (2) The multiple type, occurring on hands, forearms and face, may be seen in patients who are much younger. In some cases there is a history of exposure to tar and tar products. Ageing of the

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skin does not appear to play a role in the multiple type. The multiple self-healing epithelioma of Ferguson-Smith and the tumour-like keratoses of Roth possibly can be classified as a variant of the multiple type. A few cases of this type have had lesions on the mucous membrane. These have disappeared, leaving a scar similar to those left on the skin. (3) Another type is reported by Duany.[3] This was a conglomeration of lesions forming a huge ulcerating tumour on the chest measuring 15 × 18 cm. As indicated, etiology may be related to exposure to sunlight or hydrocarbon carcinogens. A virus etiology has been postulated but not proven. Trauma has also been mentioned.

Shaving off the base of the lesion with a scalpel under local anæsthesia, with light cautery to the base, is adequate treatment. The total lesion is obtained for histological confirmation of the clinical diagnosis. Radiotherapy is not required, as this is not a malignant lesion. With multiple lesions, once the diagnosis has been established it may be more convenient for the patient to let them disappear by themselves. Recurrences after the above-mentioned treatment have been reported, but this does not indicate malignancy. In the Duany[3] case, some keratoacanthomas recurred four times. If keratoacanthomas are as common as reports in the literature suggest, then a long hard look is indicated at all cure rates reported for squamous cell carcinoma of the skin. ROBERT JACKSON

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TOPICAL TREATMENT OF ULCERATIVE COLITIS

From studies of early lesions of ulcerative colitis, as reported by Warren and Sommers[1] and more recently by Lumb and Protheroe,[2] it appears that the initial lesion is very small and discrete. The gross inflammatory reaction usually seen on sigmoidoscopic examination or on inspection of a resected specimen is an advanced process complicated by infection. The fact that the initial lesions may not be visible with the naked eye is of considerable importance for the surgeon when deciding on the extent of the colectomy. On the other hand, it is tempting to think that if one could prevent the initial lesions from developing secondary reactions and superimposed infection, much could be achieved towards rendering the patients asymptomatic. Systemic treatment with antibiotics and more recently with steroids has probably produced a certain improvement in the prognosis of this grave disease, although sufficient time has not yet elapsed to allow complete evaluation of long-term results. Some reports are cautious with regard to ultimate prognosis of steroid-treated patients but others are more encouraging.[3]

Truelove first reported his results with topically applied hydrocortisone in 1956. His latest study[4] summarizes his previous experiences with nightly rectal drip containing at first hydrocortisone in alcohol and saline and later hydrocortisone hemisuccinate sodium, which is water-soluble. This latter compound not only produced as many rapid remissions (11 out of 18 attacks improved dramatically within a few days), but in addition, both the appearance of the mucosa on sigmoidoscopy and the histological picture of rectal biopsy specimens showed marked improvement at the end of the treatment.

Truelove has recently compared the action of this compound with that of an inert preparation, and tried to ascertain the possible advantage of adding antibiotics to the rectal infusion, and to evaluate a long-term maintenance treatment based on two nights a week.

His report indicates quite clearly that rectal infusion of the steroid preparation is vastly superior to treatment with the inert substance. This applied both to clinical improvement and to the improved state of the rectal mucosa on inspection and on histological examination. Although adding penicillin and streptomycin did produce a further gain in the number of remissions, this was not sufficiently large to be statistically significant. An equal number of relapses occurred in the group treated with topical hydrocortisone on two nights each week for six months as in the control group in whom an inert substance was used in the infusion.

Watkinson,[5] who reports his experiences with topical hydrocortisone in the same issue of the *British Medical Journal*, obtained essentially similar results. His was also a blind controlled trial and showed a far greater number of remissions with the steroid than with the dummy preparation. He is at present investigating the possibility of incorporating this steroid into a suppository for use in proctitis. In cases with marked hypermotility, intravenous administration of 15-30 mg. of propantheline half an hour before starting the infusion has enabled patients to retain the fluid in the bowel overnight.

Kramer[6] found this method of treatment to induce remissions in 50% of his own cases, but states that it did not alter the ultimate course of the disease.

It is of course too early to say whether this treatment will indeed justify the enthusiasm of its originator and the few who have so far reported on its use. The careful studies reported here indicate that the rapid remissions obtained with this treatment are not likely to be followed by the rebound phenomena that often follow systemic treatment with steroids.

In the early stages of the disease, especially when it is still limited to the recto-sigmoid, as is so often the case, such topical treatment or an improved version of it may well limit the spread of the lesions, and by shortening the duration of attacks reduce the severity of symptoms and extent of irreversible changes in the bowel. The possibility of its being carried out on an ambulatory basis adds to its value. It is to be hoped that large enough series will be reported in the not too distant future, in which the management of ulcerative

colitis has included topical treatment with hydrocortisone hemisuccinate sodium or a similar locally acting steroid.

W. GROBIN

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SOME FACTORS IN WOUND HEALING

Studies on wound healing have been extensive in recent years and Boyd[1] has summarized the facets applicable to surgery in his text on surgical pathology. Local considerations include:

1. An adequate blood supply. This presupposes the absence of tension, an adequate arterial supply and presumably adequate venous and lymphatic drainage.
2. Immobility during the healing process.
3. The avoidance of trauma to tissues. This has been constantly reiterated since Halsted's time.
4. The avoidance of infection.
5. The avoidance of foreign bodies in the wound.
6. Coaptation of tissues with absence of dead space, hæmatoma, etc.

General factors include:

A. Hormonal factors: Testosterone appears to favour anabolism. Cortisone is detrimental to wound healing only in excessive dosage for prolonged periods of time. Desoxycorticosterone acetate stimulates fibroblast production.

B. Nutritional factors: A balanced diet of protein, fat and carbohydrate with an adequate caloric intake is believed essential. Vitamins B and C are usually included as a factor in wound healing. One should remember that there is a common metabolic pool, and that wounds do heal in Orientals who exist mainly on a rice diet.

C. Osmotic factors in fluid and electrolyte balance: These are not yet well understood, but electrolyte imbalance appears disadvantageous.

D. The absence of deleterious factors such as previous excessive x-ray dosage.

In the October 1958 issue of *Surgery* there are three articles on wound healing. The most significant one is an article by Localio, Lowman and Gibson[2] on wound healing in paraplegia. This is one of the few studies that have been carried out on man, and the authors find that lack of nerve supply does not seem to have any adverse effect on healing. Decubitus ulcers in paraplegia are not due to failure to heal but are due to local pressure ischæmia on areas insensitive to pain. This of course has been the thesis of Dr. Ludwig Guttman at Stoke Mandeville for many years. As Sir Reginald Watson-Jones says: "A bed sore, trophic sore, pressure sore, decubitus ulcer, or whatever you like to call it, is a disgrace. It is no less a disgrace in a patient with traumatic paraplegia than in any patient in any hospital."

Thus regular two-hourly turning is imperative. With such a regimen, in a consecutive series of more than 100 patients with traumatic paraplegia treated from the beginning in a special centre, Holdsworth (Sheffield) was able to write: "During the past seven years, we have not had one single [serious] pressure sore in patients so treated."[3]

An article by Sisson *et al.*[4] deals with wound healing on a protein-deficient diet. Wound healing was tested in rats by comparing the tensile strength of wounds on various diets. The wounds in rats on a protein-deficient diet healed just as well as the wounds in rats on a balanced but subcaloric diet. Healing was not quite as rapid as in rats on a normal diet. This is what one would expect. Previous studies have shown that wound healing in the protein-depleted animal is delayed, and this would correspond with current clinical experience.[5]

The last article, by Thorngate and Ferguson,[6] deals with healing in wounds sutured under tension in rabbits. Surgeons have generally thought that the absence of tension during the early stages of wound healing is desirable, but this article shows that wounds which heal with tension are stronger than those which heal without it. The transference of these findings to clinical practice is not quite clear. Tension at right angles to a wound is usually considered detrimental, while pull parallel to the wound does not have the same connotation. This is one reason why transverse abdominal incisions have attained popularity. Tension during healing aligns cells and fibrils in the direction of the stress.

How then does this fit into our present treatment of surgical wounds? Early ambulation after surgery is based upon the premise that movement and varying degrees of tension in the wound do not impede healing. Indeed, most surgeons would feel that healing is somewhat faster.

One must be cautious in transposing data from the back of a rabbit to various areas on the human body. Tension must imply a certain degree of ischæmia and this is detrimental to the basic concept of repair – once the tension achieves a certain level. At the present time, it would seem wise to continue to suture tissues without excessive tension, to maintain adequate protein nutrition, and to avoid pressure ischæmia on wounds in paraplegics. As Dunphy[7] has stated:

"The search for a way to speed up wound healing is as old as surgery, and agents alleged to accomplish this are legion. It is generally accepted, however, that there is no practical way to obtain accelerated healing of wounds in an otherwise healthy patient."

T. A. MCLENNAN

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THE CHANGING FACE OF TUBERCULOSIS

Two recent articles in the *American Journal of Roentgenology*[1, 2] stress the need for modernization of our thinking in regard to the diagnosis and treatment of tuberculosis. A patient may have radiological abnormalities in the lungs characteristic of pulmonary tuberculosis, with sputum loaded with acid-fast organisms, and yet be free of tuberculous infection. Such cases are being reported with increasing frequency, and the etiological agent is one of the members of a newly recognized family of acid-fast organisms. Many of these organisms are apparently saprophytes and may be present in the sputum of healthy persons. Others are associated with, and probably the etiological agent of, pulmonary disease. This pulmonary disease is usually mild and self-limited, but it often produces a roentgenological picture identical with that of pulmonary tuberculosis.

This family, which may be described as benign acid-fast organisms, can be distinguished from *Mycobacterium tuberculosis* by culture and by animal inoculation. They possess specific cultural characteristics and they do not infect guinea pigs. Culture and guinea-pig inoculation should therefore be considered essential diagnostic procedures in establishing a diagnosis of active tuberculosis.

The many new chemotherapeutic agents employed in the treatment of tuberculosis have vastly improved the prognosis of the disease. Improvement in pulmonary lesions may occur very rapidly, even dramatically, and the extent of pulmonary involvement does not affect prognosis as it did in days gone by. The more acute cases of tuberculosis respond more rapidly, often with complete resolution; the more long-standing lesions, with much fibrosis, are less affected, although much improvement may occur.

Because of the multiplicity of chemotherapeutic agents effective in combating tuberculosis, and their varying effects in different stages of the disease, chemotherapy should be under the direction of a physician with special training in this field.

NORMAN S. SKINNER

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INSTALLATION OF THE PRESIDENT, 1959

The Coordinator of the Royal Tour has granted authority to release the information that His Royal Highness, The Duke of Edinburgh, will be the guest of The Canadian Medical Association on Tuesday, June 30, 11.30 a.m.-2.00 p.m., in Toronto, during the brief visit of Her Majesty The Queen and Prince Philip.

The Executive Committee has been making plans for a suitable opportunity to install our incoming President, and arrangements are going forward for a large luncheon at the Royal York Hotel. As part of the luncheon proceedings, Dr. A. F. VanWart will invest his successor with the Presidential insignia, aided by Dr. N. H. Gosse, Chairman of the General Council. Dr. E. K. Lyon, Canadian Deputy to the President, will subsequently carry out all duties connected with the office in the absence of the President.

Public discussion of the events of the Royal Tour suggest that informality should be the keynote, and in this instance we hope that the atmosphere of a medical family party will prevail. It is unique in the life of The Association that a Royal personage and a layman should be elected to our highest office, and it is expected that a very large number of members and their wives will desire to be present. The new Canadian Room at the Royal York has been reserved for this function and every member and his wife, up to the capacity of this very large hall, will be invited to attend. Further details of this function will be reported in subsequent issues.

Medical News in brief

MALIGNANT IRRADIATION FOR BENIGN CONDITIONS

It is a fallacy to suppose that growing awareness of the dangers of x-rays has made injurious exposure for benign conditions a thing of the past, according to Cannon and his colleagues from Boston (*New England J. Med.*, 260: 197, 1959). These authors have reviewed a total of 165 cases from the records of the Massachusetts General Hospital and from personal files. In every case irradiation was administered accidentally or for a benign lesion. In each the tissues were damaged and surgical treatment was performed or recommended. The conditions originally treated included plantar warts, eczema, hæmangiomas, benign skin tumours, acne, and excessive hair growth. In a few cases the exposure had been accidental to a physician, technician, dentist or x-ray repairman. In many cases a period of several decades had elapsed between the original treatment and the onset of damage; thus, those who had administered the x-radiation were unaware of the late consequences.

Cancer developed in 22% of this series and may still develop in others. Carcinoma developing in the face was usually of the basal cell type. The authors stress that any surgical treatment for these conditions must be prompt and thorough; prophylactic excision may avoid ultimate development of cancer. They also urge that the therapeutic use of x-rays be confined to those qualified to use this dangerous tool.

NEUROLOGICAL DISORDERS IN AORTIC STENOSIS

A series of 181 adults and 145 children with aortic stenosis were studied by Swanson (*Bull. Johns Hopkins Hosp.*, 103: 287, 1958) in order to determine the frequency of syncope, convulsions and other neurological complaints associated with this disorder. Nine adults with acquired stenosis were found to have had seizures as were five children, and although some of them did at one time or another exhibit signs of heart failure six had their seizures before developing cardiac symptoms, and in five of these exertion was never found to be a factor in precipitating the seizures.

Syncope and dizziness were noted in 27 cases. Of the 12 children concerned, six developed these symptoms before cardiac symptoms became apparent, but of the adults only three had no evidence of cardiac insufficiency at the time of the first syncopal attack. In all three patients who underwent valvulotomy, the syncopal attacks ceased after operation.

In all, 63 of the 326 patients had some neurological complaint, but it was considered unlikely that some of these complaints, such as hemiparesis, congenital nerve deafness and headaches, were due to the aortic lesion. The author points out that many of these patients first came to medical attention because of syncopal attacks or seizures, which indicates the need for considering aortic stenosis as a possible cause of these symptoms.

ACUTE GASTROENTERITIS

A careful review of 821 cases treated at the Hospital for Sick Children, Toronto, during the year 1956 (Armstrong, *J. Pediat.*, 53: 704, 1958), showed that the seasonal incidence, once greatest during the fall, is now greatest during the months of January and February except in infants below the age of 3 months. In the latter age group, there are several unusual features; the winter illness is not associated with a gut infection with unusual bacterial flora or with a parenteral infection, and is likely due to a virus. Hence it is suggested that money might be saved by confining a search for viruses in gastroenteritis to infants under the age of 3 months affected in the fall.

The author notes that only a small portion of cases (7.9%) were associated with an accepted intestinal pathogenic bacterium. It is possible however that *Proteus vulgaris* is a pathogen and is involved.

Great progress has been made in the hospital in the last 30 years as regards treatment of gastroenteritis. Whereas before 1930 up to 50% of such patients died, the present mortality rate is 1%. Most of the deaths in the 1956 series were due to a staphylococcal enteritis superimposed on another serious condition; further reduction in mortality would appear to depend upon antistaphylococcal remedies. Routine isolation of all such patients and investigation by stool culture has virtually eliminated hospital cross-infection with coliform organisms.

EPIDEMIOLOGY OF BURNS AND SCALDS IN CHILDREN

One might think that the majority of burns and scalds in children occurred in families of low intelligence associated with carelessness and overcrowding. However, a survey of cases treated at the Royal Children's Hospital, Melbourne, Australia, where 500 to 600 children with burns or scalds are seen each year, showed that this was not so (Williams *et al.*, *M. J. Australia*, 2: 599, 1958). Poor living conditions and overcrowding were not found to be a major cause, for all groups of society were represented in proportionate numbers. Most of the accidents occurred in homes where patients had an average standard of intelligence and responsibility, and the study suggests that the most important measure in prevention is to create awareness in parents of the common dangers in the home, and that routine housework commonly creates situations which are particularly dangerous for very young children (two-thirds of the accidents occurred in children between one and four years of age). Boys were more commonly affected than girls, and scalds were commoner than burns. Approximately 90% of accidents occurred in the home, 50% in the kitchen. Scalds were usually caused by the child's reaching and pulling or upsetting a container with hot fluid.

Most parents in this urban area seemed to be unaware of the frequency and ease with which such accidents occurred, and only a minority had received any education or information on these matters. Prevention will depend on an intensive general educational drive, and the authors suggest that the maternal and child health services should work on this.

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NEW DRUGS

This section on drug preparations, presented as an aid to prescribers, consists of two parts. The first consists of monographs on two new products of particular interest, selected and described by competent experts. The second part is a listing of certain new products.

ANTURAN – A New Uricosuric Agent for the Treatment of Gout

In the treatment of gout, there are two separate and distinct problems: (1) treatment of the acute extremely painful arthritis; (2) reduction of the excess uric acid in the blood and tissues to a normal level.

The acute gouty arthritis will respond, in almost all patients, to an adequate dose of oral colchicine or phenylbutazone (Butazolidin). The excessive urate in the blood may be slowly reduced by uricosuric drugs which cause an increased excretion of uric acid through the kidney.

Although dietary restrictions of fat and purine will lower the serum uric acid slightly, the effect is minimal when compared with that of the uricosuric agents.

For the past seven years the most effective uricosuric drug has been probenecid (Benemid). However, some patients, because of gastric intolerance or skin sensitivity, are unable to take a sufficient dose to maintain a normal serum urate level. Salicylates also have a potent uricosuric effect, but the large continuous daily requirement (5 to 8 grams) often produces gastric irritation and salicylism. Phenylbutazone has been shown to have a good uricosuric effect, but its salt-retaining qualities and other side effects have discouraged its use for long-term therapy, despite its value in controlling acute gouty attacks.

Recently a new sulfoxide analogue of phenylbutazone called Anturan has been found to be more effective than previously used uricosuric drugs. Per unit of weight, Anturan was found to be six times as potent as probenecid in lowering the serum uric acid level and increasing the urinary excretion of uric acid.[1] Yü, Burns and Gutman[2] found no formation of new tophi, and no increase in the size of established tophi, when adequate doses were administered. Reduction in the size of tophi did not occur within seven months, but was more rapid than with probenecid. Kersley, Cook and Tovey[3] also confirmed the superior action of Anturan, in 15 patients with typical gout. In two patients with abnormal renal function, the response was also satisfactory.

Indications and dosage.—Uricosuric drugs such as Anturan have no place in the treatment of acute gouty arthritis, as lowering the serum uric acid does not relieve the acute painful attack.[4] Opinions differ widely as to when uricosuric agents should be administered. Some wait until tophi are visible, or their presence is suspected by joint stiffness.[4] Others feel that a constant excess of uric acid may be damaging to renal and vascular tissues, and that the drug should be administered to all patients with an elevated uric acid who are having gouty attacks. Experience would seem to show that the maintenance of a normal serum urate level not only decreases, but often prevents, the attacks of acute gouty arthritis. It would therefore seem reasonable to give uricosuric drugs to all gouty patients with a high serum urate level who are having frequent disabling gouty attacks, even though the painful attacks may be largely controlled by oral colchicine or phenylbutazone. When the total urate is reduced, the dose may be decreased, or even discontinued, for a period of observation.

The dosage of Anturan remains to be fully established, but doses of four to eight 100-mg. tablets daily have been effective in most cases studied. It is likely that 200 mg. daily will maintain a normal urate level in the milder cases. Salicylates appear to block the uricosuric action, and must not be given, even in small doses, to those receiving probenecid or Anturan therapy.

Contraindications and toxicity.—No contraindications to the use of Anturan have been recorded, except in advanced renal failure. Ogryzlo and Harrison[1] observed no toxic effects and no instance of calculus formation. Pre-existing renal damage was not aggravated. Eleven per cent of 44 patients studied by Yü, Burns and Gutman[2] complained of some gastric distress, but all responded to alkali administration. Reactivation of a previous peptic ulcer occurred in two patients, and the drug was discontinued. Renal colic or formation of urate calculi may occur, particularly in those with a past history. In such patients fluid intake should be increased and the urine kept alkaline. One instance of leukopenia, possibly related to Anturan, has been cited.[2] During the first six weeks of therapy, more frequent attacks of gouty arthritis may be precipitated, but are readily controlled with oral colchicine or phenylbutazone.

REFERENCES

1. OGRYZLO, M. A. AND HARRISON, JOAN: *Ann. Rheumat. Dis.*, 16: 425, 1957.
2. YÜ, T. F., BURNS, J. J. AND GUTMAN, A. B.: *Arthritis & Rheumat.*, 1: 532, 1958.
3. KERSLEY, G. D., COOK, E. R. AND TOVEY, D. C. J.: *Ann. Rheumat. Dis.*, 71: 326, 1958.
4. GUTMAN, A. B. AND YÜ, T. F.: *Lancet*, 2: 1258, 1957.

TRIFLUPROMAZINE

Trifluprom azine (Vesprin) is one of the many new phenothiazine compounds which are being developed with the objective of lesser toxicity and higher potency. It contains fluorine in its chemical structure and seems to be three to five times as potent as chlorpromazine. The latter compound, which was the first phenothiazine introduced into psychiatry, remains the drug with which other compounds of related structure are usually compared.

Trifluprom azine is administered orally or parenterally with an average daily dose of 150 mg., the dosage ranging usually between 50 and 200 mg. It has the same general indications as other phenothiazines, i.e. all states of excitation, agitation and psychomotor hyperactivity. It also has been used in acute alcoholism, alcoholic withdrawal, certain skin disorders, and as an anti-emetic and as a premedication for general or local anæsthesia.

The main side effects of trifluprom azine are extrapyramidal motor disturbances (Parkinson-like syndrome) which occur in up to 50% with the medium dosage and can be more frequent with the dosage beyond 200 mg. daily. Extrapyramidal signs usually begin around the mouth and head region and may result in risus sardonicus, opisthotonus and generalized rigidity. Other relatively minor complications are increase in anxiety and restlessness, somnolence, skin allergic manifestation, œdema of extremities and face, hypotension and photosensitivity. Hepatic and hæmatological complications have not been reported.

Comparison of trifluprom azine with other phenothiazines does not show any particular advantage, except for the possibility of using a lower dosage and the absence of hepato-hæmatological complications. However, the preponderance of extrapyramidal signs is a drawback, particularly in ambulatory patients.

This listing of new products is based on information received from Dean F. N. Hughes, Faculty of Pharmacy, University of Toronto, and the *Canadian Pharmaceutical Journal*, to whom we owe thanks.

ANTIMICROBIAL AGENTS

Vaginal Suppositories (NEOSPORIN, B. W. & Co.)

Description.—Contain: polymyxin B, neomycin, acetarsone, beta-lactose.

Indications.—Vaginitis, trichomoniasis, cervicitis, preoperative and postoperative sterilization of the vagina.

How supplied.—Boxes of 12 with applicator.

Sodium Sulfacetamide 10% (OPTHYL No. 26, (Pr), Will)

Description.—Sodium sulfacetamide 10% ophthalmic ointment in non-anæsthetic base.

Indications.—Corneal ulcer, blepharitis, blepharoconjunctivitis, dacrocystitis, infection of eye socket, trachoma, styes. Not in penetrating wounds.

How supplied.—⅛ oz. tubes.

SEDATIVES, HYPNOTICS, TRANQUILLIZERS AND ANTIEMETICS

Meprobamate (MEPROSPAN Capsules, Ayerst)

Description.—Each prolonged release capsule contains 200 mg. meprobamate (Miltown).

Indications.—Anxiety and tension states, tension headache, insomnia, alcoholism, menstrual tension; rheumatic and related disorders, e.g. fibrositis, leg cramps in pregnancy; cerebral palsy, petit mal and related minor epileptic disorders; behavioural problems, and as adjunctive therapy in any physical disorder with an anxiety component, such as allergy, hypertension, gastro-intestinal dysfunction; psychotherapy, and preoperatively and postoperatively.

Administration.—Two prolonged-release capsules every 12 hours (morning and night).

How supplied.—30.

Meprobamate with promazine (EQUAZINE CAPSULES, (Pr) Wyeth)

Description.—Each capsule contains: meprobamate 200 mg., promazine HCl 25 mg.

Indications.—Moderate to severe emotional disturbances, insomnia, depression, nausea, vomiting, alcoholism, menopausal symptoms, premenstrual tension, etc.

Administration.—One or 2 capsules 3 or 4 times daily. For children under 12, one capsule 3 or 4 times daily is usually sufficient.

How supplied.—50.

Trifluprομazine (VESPRIN, (Pr) Squibb)

Description.—Trifluprομazine HCl, capsules and injection.

Indications.—(1) As an antiemetic to control and prevent nausea and vomiting; (2) for the relief of symptoms in the alcohol withdrawal syndrome; (3) for management of the psychotic: acute and chronic psychoses; manic states; mental deficiency with psychoses; post-partum psychoses; psychoses associated with organic brain diseases and senility; schizophrenia; sociopathic personality disturbances with psychotic reactions.

How supplied.—Capsules of 10, 25 and 50 mg. in bottles of 50 and 500.

Injection.—1 c.c. rubber-capped vials; 20 mg. per c.c. Boxes of 5 vials.

Levomepromazine (NOZINAN, (Pr) Poulenc)

Description.—Levomepromazine, tablets of 5 mg., 25 mg. and 50 mg., 1 ml. ampoules containing 25 mg. and 2 ml. ampoules containing 5 mg. per ml. for i.m. injection.

Indications.—A neuroleptic for selective action in severe depressive conditions of the melancholic type.

How supplied.—100, 500, 1000.

Chlormethazanone (TRANCOPAL, Winthrop)

Description.—Chlormethazanone 100 mg. tablets muscle relaxant and tranquillizer. Claimed to be highly effective with low incidence of side effects.

Indications.—Disorders characterized by skeletal muscle spasm, such as low back pain (lumbago), neck pain (torticollis), bursitis, rheumatoid arthritis, osteoarthritis, disc syndrome, fibrositis, joint disorders (ankle sprain, tennis elbow, etc.), myositis and postoperative myalgias. Psychogenic disorders, including anxiety and tension states, dysmenorrhœa, premenstrual tension, asthma and angina pectoris.

Administration.—Usual adult dosage—1 tablet of 100 mg. orally three or four times daily. Usual children's dosage—(from five to twelve years of age) ½ tablet (50 mg.) 3 or 4 times daily.

How supplied.—100 mg., bottles of 100.

DIURETICS

Chorothiazide (DIURIL 0.5 g. "Lyovac", (Pr), M.S.D.)

Description.—Chlorothiazide, 500 mg., for direct intravenous injection, to be reconstituted with 18 c.c. Water for Injection U.S.P. Has an onset of action within 15 minutes, maximal effect within 30 minutes, and major response complete within 2 hours. May also be given by intravenous infusion with either dextrose or saline solution.

How supplied.—20 c.c. r. c. vial.

Chorothiazide and reserpine (DIUPRES, (Pr) M.S.D.)

Description.—Tablets containing Diuril (chlorothiazide) 500 mg. or 250 mg. and reserpine 0.125 mg. for complementary effects in hypertension.

Indications.—Mild to severe hypertension. Combines diuretic, tranquillizing and specific antihypertensive actions.

Administration.—Individualized dosage important. Dosage may range from one 250 mg. tablet daily to three 500 mg. tablets daily.

How supplied.—DIUPRES-500, 100 and 1000.
DIUPRES-250, 100 and 1000.

ESIDRIX TABLETS (Ciba)
HYDRODIURIL M.S.D. (Pr.), (M.S.D.)

Description.—Hydrochlorothiazide, saluretic and diuretic compound with approximately ten times the potency of chlorothiazide.

Indications.—All conditions requiring resolution of œdema, including congestive heart failure, hepatic œdema, renal œdema (including nephrosis and certain types of nephritis), œdema and toxæmia of pregnancy, premenstrual tension, steroid-induced œdema and obesity (if fluid retention is a complicating factor). Also of value in all types and degrees of hypertension, either alone or in combination with various antihypertensive agents which it potentiates. It may be safely used in hypertensive vascular disease with or without associated congestive failure.

Administration.—To initiate diuresis and saluresis, a single oral dose of 50 to 100 mg. is administered after breakfast. This dose may be repeated after lunch once or twice daily thereafter until dry weight is attained. Maintenance doses ranging from 25 to 150 mg. daily, either daily or intermittently, may be required to maintain freedom from œdema. In hypertension, the average dose for initiating therapy is 75 mg. daily (usually 50 mg. after breakfast and 25 mg. after lunch). When added to the regimen of patients receiving other antihypertensive agents, care must be taken to avoid excessive blood-pressure reductions. Dosage must be carefully individualized and, as with any diuretic, patients must be regularly observed for early signs of fluid or electrolyte imbalance, and corrective measures initiated should they be indicated.

How supplied.—ESIDRIX, tablets of 25 mg. (pink) and 50 mg. (pale yellow); bottles of 100 and 500.

HYDRODIURIL, 50 mg. tablets and 25 mg. tablets, 100 and 1000.

COUGH MIXTURES

RYNATAN (Lakeside)

Description.—Contains:

	Tabule	5 c.c. Suspension
Phenylephrine tannate	25.0 mg.	5.0 mg.
Prophenpyridamine tannate .	37.5 mg.	12.5 mg.
Mepyramine tannate	37.5 mg.	12.5 mg.

Indications.—Sinusitis, rhinitis, coryza, hay fever and other allergic disorders.

Administration.—Adults: one tabule or 1 to 3 teaspoonfuls twice daily.

Children: 6 months to 1 year—1/3 teaspoonful twice daily; 2 to 4 years—1/2 teaspoonful twice daily; 5 to 6 years—1 teaspoonful twice daily; 8 to 11 years—1/2 to 1 tabule or 2 teaspoonfuls twice daily; 12 years and older—1 tabule or 2 to 3 teaspoonfuls twice daily.

How supplied.—Tabules, 30.
Suspension, 120 c.c.

BENYLIN EXPECTORANT with Codeine (P.D. & Co.)

Description.—Each fl. oz. represents: codeine phosphate 1/3 gr., benadryl HCl 80 mg., ammonium chloride 12 gr., sodium citrate 5 gr., chloroform 2 gr., menthol 1/10 gr.

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Indications.—Coughs due to colds and coughs of allergic origin.

Administration.—Adults: 1 or 2 teaspoonfuls every 3 or 4 hours.

Children: 1 teaspoonful or less every 4 hours, according to age. To be given to children under 2 years only on the order of a physician.

How supplied.—4, 8, and 80 fl. oz.

SYRUP ANATUSS, (Pr) (Can. Pharm.)

Description.—Each 10 c.c. contains: diphenylpyralene 0.65 mg., d-amphetamine sulfate 0.65 mg., glyceryl guaiacolate 100.0 mg., ammonium chloride 166.6 mg., chloroform 0.02 c.c.

Indications.—For symptomatic treatment of bronchial coughs, head colds.

Administration.—10 c.c. (two teaspoonfuls) 3 or 4 times daily.

How supplied.—16, 80 and 160 fl. oz.

HÆMATINIC

Ferrous fumarate (FERROFUME, Can. Pharm.)

Description.—Each green sugar-coated tablet contains: ferrous fumarate 200 mg.

Indications.—Iron-deficiency anæmias. Produces little if any gastro-intestinal discomfort.

Administration.—1 or 2 tablets, three times daily.

How supplied.—100, 500, 1000.

Ferrous gluconate (SIMRON, Merrell)

Description.—Each maroon, soft-gelatin capsule contains: iron (as ferrous gluconate) 10 mg. (1/6 gr.), Sacagen* (polyoxyethylene glucitan monolaurate) 400 mg.

Indications.—Treatment of iron deficiency states, obviates the need to give massive doses of iron in order to have therapeutic quantities absorbed into the blood.

Administration.—One capsule three times daily, between meals.

How supplied.—100.

*Special wetting agent which enhances intestinal iron absorption.

MISCELLANEOUS

Calcium carbimide (TEMPOSIL, (Pr) Lederle)

Description.—White tablets containing 50 mg. of calcium carbimide.

Indications.—As an adjunct to the medical treatment of alcoholism. Acts through the inhibition of one or more of the enzymes which are required to oxidize acetaldehyde, one of the steps in the normal metabolism of alcohol by the body.

Following ingestion of TEMPOSIL, an alcohol challenge reaction will still occur between 9 and 15 hours with an average of 12 hours, although reactions have been observed for as long as 24 hours.

Administration and dosage.—One or two 50 mg. tablets every 12 hours will give optimal coverage. One tablet upon arising in the morning with the second dose 12 hours later would seem to be the best procedure. It may be desirable to administer 2 tablets every 12 hours in some patients. All other methods of rehabilitation should be employed in addition. It should never be administered to a patient in a state of intoxication, nor probably any sooner than 36 hours after the last consumption of alcohol.

How supplied.—50.

Chlorotrianisene (TACE 25 mg., (Pr) Merrell)

Description.—Each capsule contains 25 mg. of TACE, brand of chlorotrianisene (tri-para-anisylchloroethylene), in a special stearate base. A long-acting, orally effective œstrogenic compound producing endometrial proliferation and cornification of the vaginal mucosa, but causing no pituitary hypertrophy and minimal adrenal hypertrophy in laboratory animals.

Indications.—Postpartum breast engorgement, the menopause syndrome, and carcinoma of the prostate.

Administration.—Postpartum breast engorgement: 50 mg. every 6 hours for 6 doses beginning within 8 hours after delivery.

Menopause syndrome: 25 mg. daily for 30 days. Individual variation in dose should be guided by the severity of symptoms and the response.

Carcinoma of the prostate: 25 mg. daily.

Contraindications.—As with all œstrogenic substances, should not be given to women with precancerous lesions or to women with carcinoma of the breast who are less than five years past the menopause.

How supplied.—12 and 60.

Chlorotrianisene with ergonovine (TACE with Ergonovine, (Pr) Merrell)

Description.—Each capsule contains 25 mg. of TACE, brand of chlorotrianisene (tri-para-anisylchloroethylene), in tristearin (dry fill), and 0.1 mg. ergonovine. Clinically, TACE has a natural tendency to store itself in body fat tissue following oral administration. This results in a temporary repository effect with gradually diminishing release of the œstrogenically active compound.

Indications.—Postpartum hæmorrhage due to uterine atony, and breast engorgement.

Administration.—Two capsules every 6 hours for 6 doses. For the best results the first dose should be given within 8 hours after delivery.

Contraindications.—Because of its oxytocic activity, should not be administered before completion of the first stage of labour.

How supplied.—12 and 60.

Triamcinolone (KENALOG, (Pr) Squibb)

Description.—Triamcinolone acetonide (9-alpha-fluoro-16-alpha, 17-alpha-isopropylidenedioxy-delta-1 hydrocortisone), potent, topical corticosteroid. Often acts faster than hydrocortisone and is frequently effective in those instances where hydrocortisone and other corticosteroids fail to bring about a good or complete therapeutic response.

Indications.—Many inflammatory skin conditions, including atopic dermatitis, contact dermatitis, eczematous dermatitis, neurodermatitis, seborrhœic dermatitis, insect bites, pruritus ani, pruritus vulvæ, lichen simplex chronicus, exfoliative dermatitis, stasis dermatitis, nummular eczema.

Administration.—Cream or lotion is rubbed into affected area 2 to 3 times a day. Ointment is applied lightly to the affected area 2 to 3 times a day.

How supplied.—Kenalog Cream, 0.1% — 5 g. tubes.
Kenalog Lotion 0.1% — 15 c.c. plastic squeeze bottles.
Kenalog Ointment 0.1% — 5 g. tubes.
Kenalog-S Lotion 0.1% — 15 c.c. plastic squeeze bottles.

HEPARIN SODIUM Solution, 20,000 U.S.P. units in Abboject Disposable Syringe with Needle (Abbott)

Description. — Contains 20,000 U.S.P. units (200 mg.) per c.c.

How supplied.—1 c.c. Abboject with needle, boxes of 5 and 25.

DRUG-INDUCED RENAL DISEASE

"Iatrogenic renal disease occurs sufficiently often to present a challenge both to the physician and to the pharmaceutical industry. The doctor must avoid the error of interpreting drug-induced clinical abnormalities as part of the natural history of the underlying disease. The pharmaceutical industry, on the other hand, bears the burden of the need to test new drugs for both acute and chronic toxicity. Public safety in this regard is not protected by enforced registration of such toxicity tests. This imposes upon the industry a need for a sense of responsibility and integrity which could probably not be attained by legislation in any case. Apart altogether from the necessity to develop ever less toxic therapeutic agents, close cooperation between the drug industry and the clinician in the use of properly constituted clinical trials should do much to reduce the incidence of iatrogenic disease in the future."—J. S. Robson: *Practitioner*, 181: 288, 1957.

BRITISH MEDICAL ASSOCIATION — CANADIAN MEDICAL ASSOCIATION

JOINT ANNUAL MEETING

EDINBURGH, SCOTLAND, JULY 18-24, 1959

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JOINT ANNUAL SCIENTIFIC MEETING

EDINBURGH, JULY 20 - 24, 1959

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President-Elect: His Royal Highness the PRINCE PHILIP, DUKE OF EDINBURGH, K.G., K.T.

Local General Secretary: E. R. C. WALKER, B.A., M.D., F.R.C.P.Ed., B.M.A. Scottish House, 7, Drumsheugh Gardens, Edinburgh, 3.

Assistant Local General Secretary: R. TRAQUAIR THIN, F.R.C.S.Ed., 31, Heriot Row, Edinburgh, 3.

Science Secretary: Professor G. I. SCOTT, F.R.C.S.Ed., 20, Heriot Row, Edinburgh, 3.

Assistant Science Secretaries: (Science Exhibition) Professor D. E. C. MEKIE, O.B.E., F.R.C.S.Ed., Royal College of Surgeons of Edinburgh, Nicolson Street, Edinburgh, 8; (Colour Television) J. INNES, M.D., F.R.C.P.Ed., Department of Medicine, University of Edinburgh.

Executive Officer: Miss B. E. MIDDLEMISS, B.M.A. Scottish House, 7, Drumsheugh Gardens, Edinburgh, 3.

PROGRAM

The 127th Annual Meeting of the British Medical Association will be held in the McEwan Hall, Edinburgh University, on Thursday, July 16, 1959, and will continue on Friday, Saturday and Monday, July 17, 18 and 20.

The Joint Annual Meeting with the Canadian Medical Association will be held from Saturday, July 18, to Friday, July 24, inclusive. The Joint Annual Scientific Meeting will be held from Monday, July 20, to Friday, July 24, inclusive.

The Association will welcome the members of the Canadian Medical Association and their ladies at an evening Reception to be held in the Royal Scottish Museum, Chambers Street, on Saturday, July 18.

The official Religious Service will be held in St. Giles' Cathedral on Sunday, July 19, at 3.30 p.m. There will be a Roman Catholic Service in St. Mary's Cathedral, Broughton Street, at 11.30 a.m. on Sunday, July 19.

On Sunday, July 19, there will be a choice of all-day tours to Perthshire and the Borders and tours of the city. Private supper parties will be given for Canadian doctors and their wives. In the evening a concert will be given in the Usher Hall by the B.B.C. Scottish Orchestra, conductor: Ian Whyte; soloists: Jean Harvey (piano and violin) and Duncan Robertson (tenor).

An Adjourned Annual General Meeting will take place in the Usher Hall on the evening of Monday, July 20. An address will be given by Lord Adrian, O.M.; a vote of thanks will be proposed by Professor Wilder Penfield, O.M.

The Annual Dinner, at which the Canadian visitors will be the guests of the Association, will be held in the Waverley Market on Tuesday, July 21.

The Annual Breakfast of the Christian Medical Fellowship will be held in the North British Hotel on Tuesday, July 21, at 8.15 a.m.

An Overseas Conference and Luncheon will be held on Wednesday, July 22, at B.M.A. Scottish House.

By gracious permission of Her Majesty the Queen a Garden Party will be held by the British Medical Association in the Gardens of the Palace of Holyroodhouse on the afternoon of Wednesday, July 22. By command of Her Majesty the Queen, His Grace the Duke of Hamilton, as Hereditary Keeper of the Palace, will receive the guests.

Special visits and excursions to places of interest have been arranged for ladies accompanying members of both Associations.

The usual Golf Competitions will take place on July 21 and 23.

The Reception Bureau for registration of members of the B.M.A. will be open in the Edinburgh College of Art, Lauriston Place, on Monday, July 20, at 9 a.m. All ladies accompanying B.M.A. members and *all* the Canadian visitors will register at the Assembly Club.

Two Plenary Scientific Sessions will be held in the McEwan Hall, Edinburgh University, one on Wednesday morning, July 22, and the other on Friday morning, July 24. A General Session will be held on the morning of Thursday, July 23.

In addition, Round-table Conferences will be held at 9 a.m. on Wednesday, Thursday and Friday, July 22, 23 and 24, in Adam House, Chambers Street.

Details of the 24 Scientific Sections are given below.

Both the Scientific Exhibition and the Annual Exhibition of Pharmaceutical Products, Instruments, Appliances, and Medical Publications will be held in the Edinburgh College of Art, Lauriston Place, where there will also be an Exhibition of Art by medical men. Details of the Scientific and Pharmaceutical Exhibitions will be published later. There will also be a Historical Exhibition in the Museum of the Royal College of Surgeons of Edinburgh, Nicolson Street.

On each day of the Scientific Meeting there will be a program of surgical operations and clinical demonstrations from the Edinburgh Royal Infirmary, shown by colour television on a closed circuit to two studios, one in the Infirmary itself and the other at the Edinburgh College of Art. Details of the program are given below. The technical arrangements are sponsored by Smith Kline and French Laboratories Ltd.

It is hoped to show a program of medical films at 2.30 p.m. from July 20 to 24 in the Edinburgh College of Art.

Regulations Regarding Dress

Academic Dress is to be worn at the Adjourned Annual General Meeting, the Official Religious Service, and the Roman Catholic Service.

[Note to C.M.A. members: In accordance with the rule of international meetings, dinner jackets will be in order where evening dress is indicated. Academic robes and tails will not be required of Canadians except where individual notification has been made.]

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COLOUR TELEVISION PROGRAM

Time	*Monday, July 20*	*Tuesday, July 21*	*Wednesday, July 22*	*Thursday, July 23*	*Friday, July 24*
12 noon to 12.40 p.m.	*Operating session* Prof. J. I. P. JAMES Finger flexor tendon graft	*Operating session* Mr. F. J. GILLINGHAM Surgical treatment of Parkinsonism	*Operating session* Mr. A. LOGAN Mitral valvulotomy	*Operating session* Mr. A. B. WALLACE Burns of the face—skin graft to eyelid	*Operating session* Prof. J. BRUCE Cholecystectomy and exploration of the common bile duct
12.45 to 1.25 p.m.	*Studio* Dr. J. A. SIMPSON Neurological conditions of the hands	*Studio* Prof. M. F. A. WOODRUFF Arterial disease	*Operating session* Prof. R. J. KELLAR Total hysterectomy	*Studio* Mr. P. HARRIS Management of traumatic paraplegia	*Operating session* Dr. R. B. LUMSDEN Ultrasonic treatment of Ménière's disease
1.30 to 2.00 p.m.	*Studio* Dr. J. J. R. DUTHIE Prevention and correction of deformities in rheumatoid arthritis	*Studio* Dr. I. SIMSON HALL Provision and use of hearing-aids for children	*Studio* Mr. A. B. WALLACE Prevention of home accidents	*Studio* Prof. D. M. DUNLOP Complications of diabetes	*Studio* Mr. G. P. MITCHELL Congenital dislocation of hip

Robes may be hired from Messrs. Ede & Ravenscroft, Ltd., 93, Chancery Lane, London, W.C.2; and Messrs. R. W. Forsyth Ltd., 30 Princes Street, Edinburgh, 2. Early application is advised, as the supply of gowns is limited.

Evening Dress (Tails or Dinner Jacket), with Decorations, is to be worn at the Adjourned Annual General Meeting and Annual Dinner. Evening Dress without Decorations should be worn at the Representatives' Dinner and Dance.

Travel Reservations

Members are strongly advised to make reservations on trains or aircraft to Edinburgh as soon as possible. Sleeper accommodation, in particular, may be difficult to obtain at a later date.

Hotel Accommodation

Accommodation at all the main hotels has now been allocated, but there is ample accommodation still available in smaller hotels, University hostels, and private houses, where Edinburgh Festival visitors are accommodated. Offers of private hospitality have also been made by Edinburgh doctors. *All C.M.A. members should advise University Tours, 2 College St., Toronto, Ont., or the C.M.A. office of their housing requirements. Those making private arrangements should also advise where they will be staying in Edinburgh.*

Tickets

Tickets for all functions and excursions after Sunday, July 19, will be available from Monday, July 20, at the Assembly Club and at the Registration Bureau, Edinburgh College of Art.

Edinburgh Graduates' Dinner

The Edinburgh Graduates' Dinner will be held at the North British Hotel, Edinburgh, on Friday, July 17, at 7.30 for 8 p.m. All Edinburgh graduates, together with their ladies and guests, will be welcome. Tickets (35s. each, including aperitifs but not wines) may be had on application, with remittance, to Dr. J. T. Baldwin, 7, Drumsheugh Gardens, Edinburgh, 3.

Glasgow Graduates' Dinner

The Glasgow Graduates' Dinner will be held in the Caledonian Hotel, Edinburgh, on Friday, July 17, at 7.30 for 8 p.m. The dinner is open to all Glasgow graduates attending the Annual Meeting, or resident in the area, together with their ladies and guests. Tickets will cost 30s. each, including cocktails but excluding wines. Numbers are limited to 150 and early applications, with remittance, should be made to Dr. J. T. McCutcheon, 7, Drumsheugh Gardens, Edinburgh, 3. (Dress—Dinner Jackets.)

Welsh Dinner

The Welsh Dinner will be held in the Edinburgh Suite, Assembly Club, George Street, Edinburgh, on Friday, July 17, at 7.30 p.m. Details of booking arrangements will be announced later. All Welsh Representatives, Welsh graduates, and others with Welsh associations, accompanied by their ladies, will be welcome at this dinner.

Christian Medical Fellowship Breakfast

The Annual Breakfast of the Christian Medical Fellowship will be held in the North British Hotel, Princes Street, Edinburgh, at 8.15 a.m. on Tuesday, July 21. The Chairman will be Dr. Arthur F. VanWart (President of the Canadian Medical Association) and the speaker will be Dr. Stanley G. Browne, Medical Superintendent, Yakusu Hospital and Yalisombo Leprosarium, Belgian Congo. Subject: "The Impact of Medicine and the Christian Faith on a Primitive Community." All members of the Canadian and British Medical Associations are cordially invited to attend. Those intending to be present are asked to notify Dr. Fredk. J. Wright, 36, Braid Farm Road, Edinburgh, 10.

R.A.M.C-R.C.A.M.C. Luncheon

Arrangements are being made to hold a luncheon for members of the R.A.M.C. and R.C.A.M.C. Associations on Thursday, July 23, at 1 p.m. Tickets, price £1, are obtainable from Major T. F. Jouning, R.A.M.C., Medical Branch, Headquarters Scottish Command, The Castle, Edinburgh, 1, and cheques should be made payable to the Secretary, Scottish Regional Branch R.A.M.C. Association. Early application for tickets is advised.

Roman Catholic Service and Reception

There will be a Pontifical High Mass at St. Mary's Cathedral, Broughton Street, at 11.30 a.m. on Sunday, July 19. Celebrant: The Most Reverend Gordon Joseph Gray, M.A., Archbishop of St. Andrews and Edinburgh. Doctors and their wives are invited to assemble at 63, York Place, at 10.45 a.m. for robing, and afterwards to process to the Cathedral.

His Grace the Archbishop cordially invites all Catholic doctors to a Reception at St. Bennet's, 42, Greenhill Gardens, Edinburgh, 10, at 5 p.m. on Sunday, July 19.

Assembly Club

It has been decided not to have a separate Ladies' Club this year but to have a general Club in the Music Hall and Assembly Rooms, George Street, during both the Annual Representative Meeting and the Joint Annual Meeting.

The Club will be open from 4.30 to 6.30 p.m. for registration on Wednesday, July 15, and each day thereafter from 9 a.m. until Friday, July 24. All ladies accompanying B.M.A. members and *all* the Canadian visitors will register at the Club.

Tickets for functions, tours, and excursions will be issued at the Club, and there will be a general Information Bureau.

Fully licensed catering facilities will be available at the Club, which will provide morning coffee, lunch, afternoon tea, and dinner. It is hoped to make the Club the focal point of all the social activities connected with the Meetings, and it is proposed to have dancing there each evening during the Joint Meeting.

Entertainment of Ladies Accompanying Members

A very full program has been arranged for the entertainment of the ladies accompanying both B.M.A. and C.M.A. members. Details of this are published below.

Entertainment of Young People

A centre for all young people accompanying their parents to the Joint Annual Meeting is being organized at the Gartshore Hall, George Street, where special arrangements are being made for their entertainment.

Farewell to Members of the C.M.A.

It is planned to hold a farewell party for the Canadian visitors in the Assembly Club on the evening of Friday, July 24.

Golf Competitions

Tuesday, July 21, 10 a.m.—Notts Ladies' Challenge Cup at Murrayfield Golf Club, Edinburgh (open to women members of B.M.A. and wives and daughters of members). C.M.A. ladies are invited to take part in the competition and to play for special prizes.

Tuesday, July 21, 10 a.m.—Leinster and Childe Cups at Bruntsfield Golf Club, Davidson's Mains, Edinburgh (Maximum handicap 18). C.M.A. members are invited to take part in the competition and to play for special prizes.

Thursday, July 23, 10 a.m.—Treasurer's Cup at Bruntsfield Golf Club, Davidson's Mains, Edinburgh (divisional winners only).

Friday, July 24, 2.30 p.m. – International Golf Match between teams of B.M.A. and C.M.A. at Muirfield, Gullane, East Lothian.

For further particulars apply Golf Secretary, Dr. J. M. Sturrock, 10, Heriot Row, Edinburgh 3.

Medical Art Exhibition

From July 20 to 24 there will be an exhibition of paintings by members of the British and Canadian Medical Associations. By courtesy of the governors and principal of the Edinburgh College of Art this exhibition will be held in the Andrew Grant Gallery of the College throughout the Meeting. Accepted work will be limited to approximately 150 exhibits, and should be either oil or water-colour paintings. A prize has been offered for the most outstanding exhibit. Members who wish to exhibit examples of their work on this occasion are invited to communicate with Professor B. G. Maegraith, School of Tropical Medicine, University of Liverpool, Pembroke Place, Liverpool 3; Dr. A. M. Rackow, Cleve Cottage, Hawk's Hill, Leatherhead, Surrey; or Professor D. E. C. Mekie, Royal College of Surgeons, 18, Nicolson Street, Edinburgh 8.

SCIENTIFIC MEETINGS, JULY 20-24

Plenary Sessions

Wednesday, July 22, 10.30 a.m. to 12.30 p.m. (McEwan Hall): "Trends in Modern Medicine"

Chairman: Dr. Norman H. Gosse (Halifax, Nova Scotia).

Speakers: Professor Andrew J. Rhodes (Toronto), Recent Advances in Virus Infections; Professor K. J. R. Wightman (Toronto), Recent Concepts of the Pathogenesis of Anæmia; Dr. C. Gordon Stewart (Deep River, Ont.), Radiation Hazards and Their Control in a Nuclear Energy Establishment; Professor R. O. Jones (Halifax, N.S.), The Treatment of Psychiatric Illnesses.

Friday, July 24, 10.30 a.m. to 12.30 p.m. (McEwan Hall): "Problems of an Ageing Population"

Chairman: Sir Arthur Thomson (Birmingham).

Speakers: Professor P. L. Krohn (Birmingham), Dr. J. H. Sheldon (Wolverhampton), Professor M. Roth (Newcastle upon Tyne), Dr. W. F. Anderson (Glasgow), Dr. T. N. Rudd (Southampton).

Discussant: Prof. J. Tyhurst (Vancouver).

General Session

A General Session will be held in the McEwan Hall from 10.30 a.m. to 12.30 p.m. on Thursday, July 23.

Chairman: Prof. Wilder Penfield (Montreal).

Speakers: Professor Charles H. Best (Toronto), Experimental Diabetes 1919-1959; Professor Lloyd G. Stevenson (Montreal), The Contribution of Edinburgh University to Medical Education in Canada; Lord Cohen of Birkenhead, The Present Status of Collagen Disease; Professor John Bruce (Edinburgh), Some Reflections on the Treatment of Breast Cancer.

Round-table Conferences

Wednesday, July 22, 9 to 10.15 a.m. (Adam House)

THE CHANGING PICTURE OF THE TREATMENT OF TUBERCULOSIS

Chairman: Dr. C. G. Shaver (St. Catharines, Ont.)

Speakers: Professor F. G. Kergin (Toronto), Dr. F. S. Grégoire (Montreal), Dr. H. T. McClintock (Toronto), Sir Clement Price-Thomas (London), Professor John Crofton (Edinburgh), Dr. Roger M. E. Seal (Cardiff).

VERTIGO

Chairman: Professor W. J. McNally (Montreal).

Speakers: Mr. Terence E. Cawthorne (London), Mr. Gavin H. Livingstone (Oxford), Mr. I. Simson Hall (Edinburgh), Dr. G. A. Henry (Toronto), Dr. G. C. Large (Vancouver), Dr. E. A. Stuart (Montreal).

RHEUMATIC HEART DISEASE IN PREGNANCY

Chairman: Professor George Maughan (Montreal).

Speakers: Dr. Leslie Watt (Toronto), Dr. William Greenwood (Toronto), Mr. Geoffrey H. Wooler (Leeds), Dr. William Whitaker (Leeds).

Thursday, July 23, 9 to 10.15 a.m. (Adam House)

THE MANAGEMENT OF GLAUCOMA

Chairman: Dr. J. V. V. Nicholls (Montreal).

Speakers: Professor G. I. Scott (Edinburgh), Mr. E. S. Perkins (London), Mr. E. G. Mackie (Sheffield), Professor David Rosen (Kingston, Ont.), Dr. H. Reed (Winnipeg), Dr. R. T. Hayes (Saint John).

RHEUMATIC DISEASES

Chairman: Dr. A. W. Bagnall (Vancouver).

Speakers: Dr. D. C. Graham (Toronto), Dr. J. J. R. Duthie (Edinburgh), Professor E. G. L. Bywaters (London), Dr. W. S. Tegner (London).

THE PRESENT STATUS OF OPEN HEART SURGERY

Chairman: Professor D. M. Douglas (Dundee).

Speakers: Mr. T. Holmes Sellors (London), Mr. A. L. d'Abreu (Birmingham), Dr. D. G. Melrose (London), Dr. J. C. Callaghan (Edmonton, Alta.), Dr. R. W. Gunton (Toronto), Dr. D. R. Murphy (Montreal).

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THE PSYCHO-PHYSIOLOGY AND THE VALUE OF SURGERY IN MENTAL DISORDER

Chairman: Sir Russell Brain (London).

Speakers to be announced.

Friday, July 24, 9 to 10.15 a.m. (Adam House)

THE MANAGEMENT OF ULCERATIVE COLITIS

Chairman: Professor John Bruce (Edinburgh).

Speakers to be announced.

ACCIDENT PREVENTION

Chairman: Mr. A. B. Wallace (Edinburgh).

Speakers to be announced.

ECZEMATOUS ERUPTIONS OF THE HANDS

Chairman: Dr. L. Ereaux (Montreal).

Speakers: Dr. A. M. Davidson (Vancouver), Dr. A. R. Birt (Winnipeg), Dr. H. A. Dixon (Toronto).

THE TREATMENT OF CONGESTIVE HEART FAILURE

Chairman: Dr. O. Brenner (Birmingham).

Speakers: Professor John McMichael (London), Professor E. J. Wayne (Glasgow), Dr. J. S. Robson (Edinburgh), Dr. Lea C. Steeves (Halifax, Nova Scotia), Dr. Robert S. Fraser (Edmonton, Alta.).

SCIENTIFIC SECTIONS

Section of Medicine

Joint Presidents: Professor J. R. Lemieux, B.A., M.D., D.Sc., F.R.C.P.[C], F.A.C.P. (Quebec); Professor D. M. Dunlop, M.D., F.R.C.P., F.R.C.P.Ed., F.R.S.Ed. (Edinburgh).

Joint Vice-Presidents: Professor E. F. Brooks, M.D., M.R.C.P., F.R.C.P.[C] (Toronto); Professor A. Kekwick, M.A., F.R.C.P. (London); Professor Sir George Pickering, M.D., F.R.C.P. (Oxford).

Hon. Secretaries: W. I. Card, M.D., F.R.C.P., F.R.C.P.Ed., Gastro-Intestinal Unit, Western General Hospital, Edinburgh, 4; J. Bishop Harman, M.D., F.R.C.P., F.R.C.S., 108, Harley Street, London, W.1.

Monday, July 20.—2.30 p.m. Adam House, 1st Floor. Health Education of the Patient. Professor D. M. Dunlop (Edinburgh) (chairman), Dr. R. Asher (London), Dr. G. Barber (Essex), Dr. C. Fletcher (London), Dr. H. Joules (London).

Wednesday, July 22.—2.30 p.m. Adam House, 1st Floor. *Short Papers* by Canadian Speakers. Chairman: Professor J. R. Lemieux (Quebec). The Comatose Patient, Professor E. F. Brooks (Toronto); Pitfalls in the Diagnosis of Phæochromocytoma, Professor F. S. Brien (London, Ontario); Staphylococcal Pneumonia, Professor R. B. Kerr (Vancouver); Cough Syncope Syndrome, Dr. R. M. MacDonald (Halifax, Nova Scotia); Syncope in Cardiovascular Disease, Dr. W. A. Oille (Toronto): Clinical and Laboratory Diagnosis of Hyperthyroidism, Dr. J. Gemmell (Winnipeg).

Thursday, July 23.—2.30 p.m. McEwan Hall. *Symposium* with the Section of Cardiology: Factors in the Etiology of Atherosclerosis. Chairman, Sir George Pickering. Professor W. F. Connell (Kingston, Ont.) and Dr. J. Genest (Montreal), Dietetic Factors; Dr. J. N. Morris (London), Epidemiological Factors; Dr. M. F. Oliver (Edinburgh), Hormonal Factors.

Friday, July 24.—2.30 p.m. Adam House, 1st Floor. Abnormalities of Adrenal Cortical Secretion. Chairman: Professor A. Kekwick (London). Speakers: Dr. J. C. Beck (Montreal), Dr. A. McGregor (Edinburgh), Dr. J. D. N. Nabarro (London), Dr. E. F. Scowen (London).

Section of Surgery

Joint Presidents: Professor Jacques Bruneau, B.A., M.D. (Montreal); Professor C. F. W. Illingworth, C.B.E., M.D., Ch.M., F.R.C.S.Ed., F.R.F.P.S. (Glasgow).

Joint Vice-Presidents: Professor Walter C. Mackenzie, M.D., C.M., M.S., F.R.C.S.[C], F.A.C.S. (Edmonton, Alberta); B. N. Brooke, M.D., M.Ch., F.R.C.S. (Birmingham); A. Gourevitch, *M.C.*, F.R.C.S. (Birmingham); T. McW. Millar, M.B., F.R.C.S.Ed. (Edinburgh); Ian Orr, O.B.E., M.D., Ch.M., F.R.C.S.Ed. (Preston).

Hon. Secretaries: C. W. A. Falconer, M.B., F.R.C.S.Ed., 5, Moray Place, Edinburgh, 3; Selwyn F. Taylor, B.M., M.Ch., F.R.C.S., 3, Roedean Crescent, Roehampton, London, S.W.15.

Monday, July 20.—2.30 p.m. Adam House, 2nd Floor. *Symposium*: Diseases of the Small Intestine, Dr. W. I. Card (Edinburgh), Professor Drew Kay (Sheffield). *Short Papers*: Treatment of Tumours of the Salivary Glands, Prof. E. M. Nanson (Saskatoon); Some Characteristic Patterns of the Electrogastrogram, Dr. H. S. Morton (Montreal).

Wednesday, July 22.—2.30 p.m. Adam House, 2nd Floor. *Symposium*: Prevention and Treatment of Hand Injuries, Professor J. H. F. Brotherston (Edinburgh), Mr. R. G. Pulvertaft (Derby). *Short Papers*: Facial Smash, Dr. F. M. Woolhouse (Montreal); A Method of Treatment of Compound Fractures of the Lower Limb, Dr. V. O. Mader (Halifax, Nova Scotia).

Friday, July 24.—2.30 p.m. Adam House, 2nd Floor. *Symposium*: Reappraisal of Indications for Operation in Sigmoid Diverticulitis, Professor W. C. Mackenzie (Edmonton, Alberta); Mr. T. McW. Millar (Edinburgh). *Short Papers*: Problems Involved in Resection of the Liver, Mr. Rodney Smith (London), Dr. Sheila Sherlock (London); Surgical Management of the Diabetic Foot, Professor A. D. McLachlin (London, Ontario).

Section of Obstetrics and Gynæcology

Joint Presidents: W. G. Cosbie, *M.C.*, E.D., M.B., F.R.C.S.[C], F.R.C.O.G. (Toronto); John Peel, F.R.C.S., F.R.C.O.G. (London).

Joint Vice-Presidents: Professor Elinor F. E. Black, M.D., F.R.C.S., F.R.C.S.[C], F.R.C.O.G. (Winnipeg); E. A. Gerrard, V.R.D., M.D., F.R.C.O.G. (Manchester); Professor R. J. Kellar, M.B.E., F.R.C.P.Ed., F.R.C.S.Ed., F.R.C.O.G. (Edinburgh).

Hon. Secretaries: John Sturrock, F.R.C.S.Ed., F.R.C.O.G., 22, Palmerston Place, Edinburgh, 12; Professor A. S. Duncan, D.S.C., F.R.C.S.Ed., F.R.C.O.G., Department of Obstetrics and Gynæcology, Royal Infirmary, Cardiff.

Monday, July 20.—2.30 p.m. Adam House, 3rd Floor. Joint Meeting with the Section of Anæsthetics; Anæsthesia for Obstetric Manœuvres and Operations, Professor Ian Morris (Manchester), Dr. W. D. Wylie (London), Dr. J. J. Carroll (Vancouver). 3.45 p.m. The Early Diagnosis of Cancer of the Female Reproductive Organs, Dr. W. G. Cosbie (Toronto), Dr. Thomas Primrose (Montreal), Dr. Henrietta Banting (Toronto).

Tuesday, July 21.—2.30 p.m. Adam House, 2nd Floor. Management of the Third Stage of Labour and its Complications, Dr. Donald B. Fraser (London), Dr. J. K. Feeney (Dublin), Dr. C. W. Walker (Cambridge), Dr. A. W. Andison (Winnipeg). 3.45 p.m. The Problems of Prematurity, Professor Carl Tupper (Halifax, Nova Scotia), Dr. F. E. Bryans (Vancouver), Dr. Paul Swyer (Toronto).

Thursday, July 23.—2.30 p.m. Adam House, 3rd Floor. Dysfunctional Uterine Bleeding, Dr. Arthur M. Sutherland (Glasgow), Dr. T. N. MacGregor (Edinburgh), Dr. J. L. Macarthur (Montreal). 3.45 p.m. The Contribution Made by Maternal Mortality Study Committees, Professor J. Ross Vant (Edmonton, Alberta), Dr. L. J. Harris (Toronto).

Section of Anæsthetics

Joint Presidents: R. A. Gordon, C.D., M.D., B.Sc., F.R.C.P.[C], F.F.A. R.C.S., D.A., F.A.C.A. (Toronto); John Gillies, C.V.O., *M.C.*, F.R.C.P.Ed., F.R.C.S.Ed., F.F.A. R.C.S., D.A. (Edinburgh).

Joint Vice-Presidents: M. W. Bowering, M.D., F.A.C.A. (Regina); H. R. Youngman, M.D., F.F.A. R.C.S., D.A. (Cambridge).

Hon. Secretaries: J. D. Robertson, M.D., F.R.C.P.Ed., F.F.A. R.C.S., D.A., Department of Anæsthetics, The Royal Infirmary, Edinburgh, 3; W. N. Rollason, M.B., F.F.A. R.C.S., D.A., "Venset," 83, Newland Park, Hull.

Monday, July 20.—2.30 p.m. Adam House, 3rd Floor. Joint Meeting with Section of Obstetrics and Gynæcology. Anæsthesia for Obstetric Manœuvres and Operations.

Tuesday, July 21.—2.30 p.m. Chemistry Lecture Room, King's Buildings. Chairman: Dr. R. A. Gordon (Toronto). Spreading it Thinner, Professor E. A. Pask (Newcastle upon Tyne); Laboratory Observations on the Combined Use of Hypotension and Hypothermia, Dr. S. L. Vandewater (Toronto); The Role of the Anæsthetist in the Conservative Care of Head Injuries, Dr. A. R. Hunter (Manchester). Chairman: Dr. H. R. Youngman (Cambridge). Certain Aspects of Anæsthesia for Head and Neck Surgery, Dr. Alan B. Noble (Montreal); Induced Hypoxia and the Ambulant Anæsthetic Case, Dr. A. Tom (Cheltenham); Brain Rhythms and Photic Stimuli in Very Light Anæsthesia, Dr. J. Clutton-Brock (Bristol).

Wednesday, July 22.—2.30 p.m. Chemistry Lecture Room, King's Buildings. Chairman: Dr. John Gillies (Edinburgh). Obstetrical Anæsthesia in a Canadian Teaching Hospital, Dr. R. A. Gordon (Toronto); A Sense of Proportion, Dr. H. H. Pinkerton (Glasgow); Epidural Anæsthesia for Lumbar Spinal Fusion and Laminectomy, Dr. D. Matheson (Vancouver). Chairman: Dr. M. W. Bowering (Regina). New Methods for the Analysis of Respired Gases, Professor R. Woolmer (London); Sensory Thresholds in Light Anæsthesia, Dr. J. G. Robson (Montreal).

Section of Anatomy and Physiology

Joint Presidents: Professor J. C. B. Grant, *M.C.*, M.B., Ch.B., D.Sc., F.R.C.S.Ed. (Toronto); Professor Robert Walmsley, M.D., F.R.C.S., F.R.C.S.Ed. (St. Andrews).

Joint Vice-Presidents: Professor D. H. Copp, M.D., Ph.D. (Vancouver); Professor David Slome, M.B., Ch.B., Ph.D. (London).

Hon. Secretaries: G. R. Hervey, M.D., Ch.B., Department of Physiology, The University, Sheffield, 10; J. B. King, M.D., F.R.C.P.Ed., F.F.R., Department of Anatomy, University of Edinburgh, Teviot Place, Edinburgh.

Tuesday, July 21.—2.30 p.m. University West Lecture Theatre. Regulation of Blood Calcium—a Problem in Homœostasis, Professor D. H. Copp (Vancouver); Observations on the Iron Content of the Mammary Glands, Professor H. E. Rawlinson (Edmonton, Alberta); Anatomy of the Newborn, Professor R. Walmsley (St. Andrews); Somatic Stability in the Newly Born, Professor R. A. McCance (Cambridge).

Section of Cardiology

Joint Presidents: H. N. Segall, M.D., F.A.C.P. (Montreal); A. Rae Gilchrist, M.D., F.R.C.P., P.R.C.P.Ed. (Edinburgh).

Joint Vice-Presidents: W. Greenwood, B.A., M.D., F.R.C.P.[C] (Toronto); Professor D. M. Douglas, M.B.E., Ch.M., M.S., F.R.C.S., F.R.C.S.Ed. (Dundee).

Hon. Secretaries: Frances V. Gardner, M.B., F.R.C.P., 72, Harley Street, London, W.1; R. M. Marquis, M.B.E., M.B., F.R.C.P.Ed., Leadburn House, Leadburn, West Linton, Peebleshire.

Tuesday, July 21.—2.30 p.m. Adam House, 3rd Floor. *Symposium*: Coronary Artery Disease. Subacute Coronary Insufficiency, Dr. Paul Wood (London); Errors in Electrocardiographic Interpretation, Dr. H. N. Segall (Montreal); Problems in the Management of Acute Myocardial Infarction, Dr. A. Rae Gilchrist (Edinburgh). *Short Papers*: The Need for Surgical Closure of Ventricular Septal Defects in Infancy, Dr. J. E. Gibbons (Montreal); Lung Changes (X-ray) in Heart Disease, Dr. P. J. Kerley (London).

Wednesday, July 22.—2.30 p.m. Adam House, 3rd Floor. Presentation of Problem Cases. Dr. A. Rae Gilchrist (Edinburgh) (chairman), Dr. R. W. D. Turner (Edinburgh), Professor I. G. W. Hill (Dundee), Dr. P. H. Wood (London), Dr. A. J. Kerwin (Toronto), Dr. H. N. Segall (Montreal). The Treatment of Hypertension. Dr. Jacques Genest (Montreal) (chairman), Professor M. Rosenheim (London), Professor Sir George Pickering (Oxford), Professor E. Paton (London), Dr. J. A. Lewis (London, Ontario), Dr. M. Nickerson (Winnipeg).

Thursday, July 23.—9 a.m. Adam House. *Round-table Conference*: The Present Status of Open Heart Surgery. 2.30 p.m. McEwan Hall. *Symposium* with the Section of Medicine: Factors in the Etiology of Atherosclerosis.

Friday, July 24.—9 a.m. Adam House. *Round-table Conference*: The Treatment of Congestive Heart Failure.

Section of Chest Diseases

Joint Presidents: Prof. J. D. Adamson, B.A., M.D., M.R.C.P.Ed., F.R.C.P.[C] (Winnipeg); Sir Russell Brock, M.S., F.R.C.S. (London).

Joint Vice-Presidents: F. S. Grégoire, B.A., M.D., F.R.C.P.[C], F.C.C.P. (Montreal); Professor P. R. Allison, D.M., Ch.M., F.R.C.S. (Oxford); Professor J. W. Crofton, M.D., F.R.C.P., M.R.C.P.Ed. (Edinburgh).

Hon. Secretaries: I. W. B. Grant, M.B., F.R.C.P.Ed., Respiratory Diseases Unit, Northern General Hospital, Ferry Road, Edinburgh, 5; M. Telling, D.M., F.R.C.P., 29, Park Square, Leeds, 1.

Thursday, July 23.—2.30 p.m. Zoology Lecture Theatre, King's Buildings. *Symposium*: The Management of Chest Infections. Introduction, Professor J. Crofton (Edinburgh); The Treatment of Pneumonia, Dr. F. S. Grégoire (Montreal); The Management of Bronchitis, Dr. Brian Taylor (Birmingham); The Problem of Anoxia in Chest Infections, Dr. T. Simpson (London); The Management of Empyema, Professor F. G. Kergin (Toronto).

Friday, July 24.—2.30 p.m. Zoology Lecture Theatre, King's Buildings. Sarcoidosis, Dr. A. Anglin (Toronto); The Epidemiological Aspects of Lung Cancer, Dr. C. R. Lowe (Birmingham); The Present Position of the Surgical Treatment of Bronchiectasis, Mr. R. J. M. McCormack (Edinburgh); Incidence of Bronchogenic Cancer in Chronic Coughers, Professor J. D. Adamson (Winnipeg).

Section of Child Health

President: Professor Stanley Graham, LL.D., M.D., F.R.C.P.Ed., F.R.F.P.S. (Glasgow).

Vice-Presidents: Professor R. W. B. Ellis, O.B.E., M.A., M.D., F.R.C.P. (Edinburgh); Professor J. D. Hay, M.A., M.D., F.R.C.P., M.R.C.S., D.C.H. (Liverpool); Professor J. L. Henderson, M.D., F.R.C.P.Ed. (Dundee).

Hon. Secretaries: N. R. Butler, M.D., F.R.C.P., D.C.H., Salisbury General Infirmary, Salisbury; J. O. Forfar, *M.C.*, F.R.C.P.Ed., D.C.H., 110, Ravelston Dykes, Edinburgh, 12.

Monday, July 20.—2.30 p.m. Zoology Lecture Theatre, King's Buildings. Neonatal Hyperbilirubinæmia, Dr. A. E. Claireaux (London), Dr. W. Walker (Newcastle upon Tyne), Dr. J. P. Bound (Blackpool). *Short Papers*: The Use and Abuse of Steroid Therapy in Children, Professor H. Medovy (Winnipeg); The Prognosis of Asthma in Children, Dr. C. Collins-Williams (Toronto).

Wednesday, July 22.—2.30 p.m. Zoology Lecture Theatre, King's Buildings. Staphylococcal Infection in Newborn Infants, Dr. J. O. Forfar (Edinburgh), Dr. F. W. J. Miller (Newcastle upon Tyne), Miss Isabella I. Forshall (Liverpool). The Diagnosis and Management of Speech Disorders in Childhood, Miss Edith Whitnall (London), Dr. T. T. S. Ingram (Edinburgh), Dr. W. N. Boog Watson (Edinburgh).

Friday, July 24.—2.30 p.m. West Lecture Theatre, University. Psychoses in Infancy and Childhood, Dr. W. A. Hawke (Toronto), Dr. Mildred Pott (London), Dr. F. H. Stone (Glasgow), Dr. K. Cameron (London). The Dawson Williams Lecture, Mr. Denis Browne (London).

Section of Dermatology

Joint Presidents: H. A. Dixon, M.D., F.R.C.P.[C] (Toronto); Professor G. H. Percival, M.D., Ph.D., F.R.C.P.Ed., D.P.H. (Edinburgh).

Joint Vice-Presidents: L. P. Ereaux, M.D., C.M., B.Sc., D.A.B.D. (Montreal); T. E. Anderson, M.D. (Aberdeen).

Hon. Secretaries: P. W. Hannay, M.B., F.R.C.P.Ed., 35, Moray Place, Edinburgh, 3; A. J. Rook, M.D., M.R.C.P., 3, Grange Road, Cambridge.

Thursday, July 23—2.30 p.m. Biochemistry Lecture Room, University. The Skin and Disordered Porphyrin Metabolism, Dr. A. Lyell (Aberdeen), Dr. G. Holti (Birmingham); discussion to be opened by Dr. B. Kanee (Vancouver). The Skin Lesions of Reiter's Syndrome, Dr. R. C. Smith (Toronto); discussion to be opened by Dr. Girdwood Fergusson (Glasgow). Local Use of Hydrocortisone Acetate in Dermatological Practice, Dr. G. E. Craig (Montreal); discussion to be opened by Dr. A. Rook (Cambridge).

Section of General Practice

Joint Presidents: Jack McKenty, E.D., B.A., M.D., (Winnipeg); George W. Ireland, M.B., Ch.B. (Ford, Midlothian).

Joint Vice-Presidents: H. G. Hall, B.A., M.D. (Toronto); John W. Brown, T.D., M.B., B.Sc. (Birmingham); A. C. Houghton, T.D., M.B. (Birmingham); John Hunt, D.M., M.R.C.P. (London).

Hon. Secretaries: Annis Gillie, M.B., B.S., M.R.C.P., 41, Connaught Square, London, W.2; Richard Scott, M.D., D.P.H., Edinburgh University General Practice Teaching Unit, Livingstone House, 39, Cowgate, Edinburgh, 1.

Thursday, July 23.—2.30 p.m. Adam House, 2nd Floor. The Ageing Population and the Community. Clinical Studies of the Early Phase of Hypertension, Dr. H. G. Hall (Toronto); Hypertension in the Elderly, Dr. I. H. Stokoe (Edinburgh); Geriatrics in the Setting of General Practice, Lord Amulree (London); The Evaluation of Physical, Psychological, Social, and Economic Factors in the Patient's Illness, Dr. C. J. Houston (Yorkton, Sask.), Dr. R. Scott (Edinburgh), Dr. I. D. Grant (Glasgow).

Section of History of Medicine

Joint Presidents: Professor L. G. Stevenson, B.A., M.D., Ph.D. (Montreal); Douglas Guthrie, M.D., F.R.C.S.Ed. (Edinburgh).

Joint Vice-Presidents: Arthur L. Murphy, B.A., M.D., C.M., F.A.C.S. (Halifax, Nova Scotia); E. Ashworth Underwood, M.D., D.P.H. (London).

Hon. Secretary: H. P. Tait, M.D., F.R.C.P.Ed., D.P.H., 26, Cluny Drive, Edinburgh, 10.

Wednesday, July 22.—2.30 p.m. Hall of the Royal Medical Society. Proposals for a Reform of the Course of Instruction in History of Medicine, Dr. L. F. G. Sennewald (St. Thomas); The Varying Phases in Medical Education, Professor H. E. Rawlinson (Edmonton, Alberta); The Anti-Scurvy Club, 1606 A.D., Dr. A. L. Murphy (Halifax, Nova Scotia); Sir Charles Bell, Professor E. W. Wells (London); Some Notable Members of the Royal Medical Society, Dr. W. A. Alexander (Edinburgh); Douglas of the Pouch, Dr. K. Bryn Thomas (Reading).

Section of Neurology and Neurosurgery

Joint Presidents: J. Clifford Richardson, M.B.E., M.D., B.Sc., F.R.C.P., F.R.C.P.[C] (Toronto); Professor N. M. Dott, C.B.E., M.B., F.R.C.S.Ed., F.R.S.Ed. (Edinburgh).

Joint Vice-Presidents: C. Bertrand, B.A., M.D., F.R.C.S.[C], F.R.A.S. (Montreal); A. M. G. Campbell, D.M., F.R.C.P. (Bristol).

Hon. Secretaries: F. J. Gillingham, M.B.E., M.B., F.R.C.S., Department of Surgical Neurology, Ward 20, The Royal Infirmary, Edinburgh; J. Marshall, M.D., M.R.C.P., F.R.C.P.Ed., D.P.M., Institute of Neurology, National Hospital, Queen Square, London, W.C.1.

Friday, July 24.—2.30 p.m. Adam House, 3rd Floor. The Result of Medical Treatment of Epilepsy, Dr. F. L. McNaughton (Montreal), Dr. J. A. Simpson (Edinburgh), Dr. Denis Williams (London); The Surgical Treatment of Parkinsonism, Dr. C. Bertrand (Montreal), Mr. F. J. Gillingham (Edinburgh), Dr. J. P. Martin (London); Tissue Reaction (Allergy) in the Nervous System, Dr. Henry Miller (Newcastle upon Tyne), Dr. A. A. Bailey (Saskatoon), Dr. J. B. Stanton (Edinburgh); Modern Experience with Bacterial Meningitis, Dr. H. H. Hyland (Toronto), Dr. T. P. Morley (Toronto), Dr. J. Lorber (Sheffield).

Section of Occupational Health

Joint Presidents: H. Graham Ross, E.D., M.D., C.M., D.O.M. (Montreal); Professor R. C. Browne, M.A., D.M., M.R.C.P. (Newcastle upon Tyne).

Joint Vice-Presidents: Gordon A. Sinclair, O.B.E., E.D., M.D. (Toronto); T. O. Garland, M.D., D.P.H. (London).

Hon. Secretaries: Hugh Miller, M.D., D.I.H., 2, Lomond Road, Trinity, Edinburgh, 5; J. A. Smiley, O.B.E., M.D., D.I.H., Craigtara, 18, Annadale Avenue, Belfast.

Thursday, July 23.—2.30 p.m. Chemistry Lecture Room, King's Buildings. A Morbidity Study in an Active Working Population, Dr. G. A. Sinclair (Toronto); The Place of the General Practitioner or Family Doctor in Industrial Health, Lord Taylor (Harlow); Readjustment in Industry of the Worker who has Heart Disease, Dr. H. N. Segall (Montreal); The Role of the Industrial Medical Officer in the Education of Management and the Workers in Health and Safety, Dr. Ian Richardson (Aberdeen).

Friday, July 24.—2.30 p.m. Chemistry Lecture Room, King's Buildings. The Role of the Doctor in Vocational Guidance, Dr. M. E. M. Herford (Slough); A.T.S. Reactions and Their Effect on Passive Immunity, Dr. L. J. Mahoney (Toronto); The Allocation of Time in Planning the Duties of the Industrial Medical Officer between Clinical and Environmental Work, Dr. T. O. Garland (London); Methods Used to Prevent Skin Disease in a Large Aircraft Factory, Dr. G. E. Craig (Montreal).

Section of Ophthalmology

Joint Presidents: Professor M. R. Marshall, M.D., C.M., F.R.C.S.[C], F.A.C.S., D.L.O. (Edmonton, Alberta); T. K. Lyle, C.B.E., M.D., M.Ch., M.R.C.P., F.R.C.S. (London).

Joint Vice-Presidents: J. V. V. Nicholls, B.A., M.D., C.M., M.Sc., F.A.C.S. (Montreal); Professor G. I. Scott, F.R.C.S.Ed., F.R.S.Ed. (Edinburgh).

Hon. Secretaries: C. R. S. Jackson, F.R.C.S.Ed., D.O.M.S., 3, Circus Gardens, Edinburgh; K. C. Wybar, M.D., Ch.M., F.R.C.S., 6, Chesterfield Street, Mayfair, London, W.1.

Thursday, July 23.—2.30 p.m. Adam House Theatre. Modern Treatments of Detachments of the Retina, Mr. L. G. Fison (London); The Differential Diagnosis of Vitreous Hæmorrhage with Special Reference to Treatment of Eales's Disease, Professor A. J. Elliot (Toronto). Joint Session with Section of Plastic Surgery: Displacement of the Orbital Floor and Traumatic Diplopia, Dr. A. Ross Tilley (Toronto), Dr. T. K. Lyle (London).

Section of Orthopædics

Joint Presidents: F. P. Dewar, M.D., F.R.C.S.Ed., F.R.C.S.[C] (Toronto); Professor Sir Walter Mercer, F.R.C.S., F.R.C.S.Ed., F.R.S.Ed. (Edinburgh).

Joint Vice-Presidents: J. A. Leo Walker, B.A., M.D., C.M., F.R.C.S.[C], F.A.C.S, F.A.A.O.S. (Montreal); N. L. Capener, F.R.C.S. (Exeter).

Hon. Secretaries: G. A. Pollock, M.S., F.R.C.S.Ed., F.A.C.S., D.P.H., 43, Cluny Gardens, Edinburgh, 10; R. Guy Pulvertaft, F.R.C.S., 27, Friar Gate, Derby.

Tuesday, July 21.—2.30 p.m. Adam House Theatre. Chairman: Sir Walter Mercer (Edinburgh). Fractures of the Os Calcis, Dr. F. P. Dewar (Toronto); Tumours of the Hand, Mr. G. Stack (Brentwood); The Gallie Ankle Fusion, Dr. J. C. Kennedy (London, Ontario); Hip Conditions in Cerebral Palsy, Dr. D. Lamb (Edinburgh); Fusion for Hallux Rigidus, Dr. J. A. L. Walker (Montreal).

Wednesday, July 22.—2.30 p.m. Adam House Theatre. Chairman: Dr. F. P. Dewar (Toronto). Injuries to the Articular Disk at the Wrist, Dr. H. M. Coleman (Toronto); Neurovascular Factors related to Brachialgia, Dr. W. S. Watson (Edinburgh), Dr. C. C. Burt (Edinburgh); Carpal Tunnel Syndrome, Mr. Karl Nissen (London). *Panel Discussion:* Fracture Healing, Mr. R. I. Stirling (Edinburgh) (chairman), Dr. D. L. MacIntosh (Toronto), Dr. A. A. Butler (Montreal), Mr. H. Osmond-Clarke (London), Mr. J. Charnley (Manchester).

Section of Oto-rhino-laryngology

Joint Presidents: Professor P. E. Ireland, M.D., F.R.C.S.[C], F.A.C.S. (Toronto); I. Simson Hall, M.B., F.R.C.P.Ed., F.R.C.S.Ed. (Edinburgh).

Joint Vice-Presidents: G. A. Henry, M.D., F.A.C.S. (Toronto); E. G. Collins, M.B., F.R.C.S.Ed. (Aberdeen).

Hon. Secretaries: A. Daunt Bateman, O.B.E., V.R.D., F.R.C.S., D.L.O., 11, The Circus, Bath; George D. McDowall, M.B., Ch.B., F.R.C.S.Ed., 14, Moray Place, Edinburgh.

Monday, July 20.—2.30 p.m. Adam House Theatre. Dysphagia, Dr. D. B. Kelly (Glasgow); Facial Pain, Mr. D. Middleton (Edinburgh), Mr. K. Harrison (Manchester); Twenty Years' Experience in Otosclerosis Surgery, Senator J. T. A. Sullivan (Toronto); Methods of Shrinking the Inferior Turbinate to Improve the Airways, Dr. G. E. Tremble (Montreal); Cancer of the Larynx, Professor F. Montreuil (Montreal).

Section of Pathology and Bacteriology

Joint Presidents: Professor William Boyd, M.D., D.Sc., LL.D., F.R.C.P., F.R.C.P.Ed., F.R.C.S.[C], D.Psy. (Willowdale, Ont.); Agnes R. MacGregor, M.D., F.R.C.P.Ed. (Edinburgh).

Joint Vice-Presidents: Professor C. E. van Rooyen, M.D., D.Sc., M.R.C.P., F.R.C.P.[C] (Halifax, Nova

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Scotia); Professor C. P. Beattie, M.B., Ch.B., D.P.H. (Sheffield).

Hon. Secretaries: J. H. Bowie, M.B., Ch.B., F.R.C.P.Ed., Bacteriological Department, The Royal Infirmary, Edinburgh; Walter H. H. Merivale, M.B., M.R.C.P., 88, Harley Street, London, W.1.

Tuesday, July 21.—2.30 p.m. Biochemistry Lecture Theatre. *Symposium*: Staphylococcal Infections in the Home and Hospital, Dr. D. Hugh Starkey (Montreal), Dr. D. Cruikshank (Edinburgh), Dr. J. Smith Gardner (Calgary), Dr. K. S. MacLean (London), Professor J. C. Wilt (Winnipeg).

Section of Plastic Surgery

Joint Presidents: Professor Fulton Risdon, V.D., M.B., D.D.S., F.R.C.S.[C], F.A.C.S. (Toronto); A. B. Wallace, M.Sc., F.R.C.S.Ed. (Edinburgh).

Joint Vice-Presidents: Professor J. W. Gerrie, B.A., M.D., C.M., D.D.S., F.I.C.S., D.L.O. (Montreal); J. N. Barron, F.R.C.S.Ed. (Salisbury).

Hon. Secretaries: A. D. R. Batchelor, F.R.C.S.Ed., 17, Bright's Crescent, Edinburgh, 9; L. M. Rouillard, F.R.C.S.Ed., 79, Newmarket Road, Norwich.

Thursday, July 23.—4 p.m. Adam House Theatre Joint Session with Section of Ophthalmology: Displacement of the Orbital Floor and Traumatic Diplopia, Dr. A. Ross Tilley (Toronto), Dr. T. K. Lyle (London).

Friday, July 24.—2.30 p.m. Adam House Theatre. The Problems of Acute Skin Destruction. Dr. H. Hoyle Campbell (Toronto), Mr. J. Kirk (Edinburgh); Maxillofacial Injuries in Childhood, Professor J. W. Gerrie (Montreal), Dr. W. D. MacLennan (Edinburgh); Lymphœdema, Professor J. B. Kinmonth (London), Dr. R. Langston (Vancouver), Mr. J. S. Tough (Glasgow).

Section of Preventive and Social Medicine

Joint Presidents: Professor C. B. Stewart, M.D., C.M., B.Sc., D.P.H., F.A.P.H.A. (Halifax, Nova Scotia); Sir Kenneth Cowan, Q.H.P., M.D., F.R.C.P.Ed., D.P.H., F.R.S.Ed. (Edinburgh).

Joint Vice-Presidents: Professor John Wyllie, M.A., M.D., B.Sc., D.P.H. (Kingston, Ontario); Sir James Kilpatrick, K.B.E., C.B., M.B., D.P.H. (London).

Hon. Secretaries: Professor J. H. F. Brotherston, M.A., M.D., D.P.H., F.R.C.P.Ed., F.R.S.Ed., Usher Institute, Warrender Park Road, Edinburgh, 9; W. G. Harding, M.R.C.S., L.R.C.P., D.P.H., 128, Grosvenor Road, London, N.10.

Monday, July 20.—2.30 p.m. University West Lecture Room. The Aftercare of the Hospital Patient, Professor T. Ferguson (Glasgow), Professor A. Mair (St. Andrews), Dr. I. Richardson (Aberdeen), Professor J. H. F. Brotherston (Edinburgh).

Wednesday, July 22.—2.30 p.m. University West Lecture Room. A Study of the Comparative Mortality Index as Applied to Cancer Mortality in Canada, Professor J. Wyllie (Kingston, Ontario); Canadian Experience in the Prevention of Communicable Disease through Immunization Programs, Dr. R. J. Wilson (Toronto); Some Observations on the Applied Epidemiology of Tuberculosis, Dr. A. J. Nelson (Vancouver); Observations on the Canadian Sickness Survey, Dr. G. E. Wride (Ottawa).

Section of Psychiatry

Joint Presidents: Professor A. B. Stokes, C.B.E., M.A., B.M., F.R.C.P., F.R.C.P.[C], D.P.M., D.C.H. (Toronto); T. P. Rees, O.B.E., M.D., M.R.C.P., D.P.M. (London).

Joint Vice-Presidents: Professor R. O. Jones, M.D., C.M., B.Sc., F.A.P.A. (Halifax, Nova Scotia); Professor G. R. Hargreaves, O.B.E., M.R.C.S., L.R.C.P. (Leeds).

Hon. Secretaries: Margaret M. Methven, M.B., D.P.M., 8, Ravelston Garden, Edinburgh, 4; David Stafford-Clark, M.D., F.R.C.P., D.P.M., York Clinic, Guy's Hospital, London, S.E.1.

Monday, July 20.—2.30 p.m. Jordanburn Lecture Theatre. *Symposium*: The Place of Psychiatry in the Undergraduate Curriculum, Dr. T. P. Rees (London) (chairman), Dr. D. Ewen Cameron (Montreal), Professor G. R. Hargreaves (Leeds), Dr. Denis Hill (London), Professor G. E. Hobbs (London, Ontario), Professor A. Kennedy (Edinburgh), Professor D. G. McKerracher (Saskatoon), Professor M. Miller (Aberdeen), Professor J. S. Tyhurst (Vancouver).

Tuesday, July 21.—2.30 p.m. Adam House, 1st Floor. Psychological Crises in Family Life, Dr. H. V. Dicks (London), Professor G. E. Hobbs (London, Ontario); Brief Methods of Psychotherapy, Dr. D. Stafford-Clark (London), Professor D. G. McKerracher (Saskatoon); The Person and the Family in Medical Education, Professor G. R. Hargreaves (Leeds), Professor A. B. Stokes (Toronto).

Section of Radiology

Joint Presidents: Professor A. C. Singleton, M.B.E., E.D., M.D., F.R.C.P.[C], F.F.R., F.A.C.R. (Toronto); Professor R. McWhirter, F.R.C.S.Ed., D.M.R.E., F.F.R., F.R.S.Ed. (Edinburgh).

Joint Vice-Presidents: T. A. Watson, M.B., Ch.B., D.M.R. (Saskatoon); W. H. Bond, F.R.C.S., D.M.R.T. (Birmingham); Hugh Davies, T.D., D.M., D.M.R.E., F.F.R. (London).

Hon. Secretaries: A. P. Booth, M.B., D.M.R.E., 19, Lothians Road, Tettenhall, Staffs.; K. A. Mackenzie, M.B., D.M.R., Department of Radiotherapy, The Royal Infirmary, Edinburgh, 3.

Radiotherapy Section

Monday, July 20.—9.30 a.m. to 12.30 p.m. Lecture Theatre, Western General Hospital. Supervoltage Radiotherapy in the Treatment of Malignant Disease. Chairman, Professor R. McWhirter (Edinburgh). Cobalt-60 in the Treatment of Malignant Disease, Dr. T. A. Watson (Saskatoon); The Linear Accelerator in the Treatment of Malignant Disease, Dr. Ralston Paterson (Manchester); Cobalt-60 in the Treatment of Oral Cancer, Dr. Ivan H. Smith (London, Ontario); The Linear Accelerator in the Treatment of Malignant Disease in a Selected Site, Professor B. Windeyer (London).

Radiodiagnostic Section

Monday, July 20.—2 to 5.10 p.m. Biochemistry Lecture Theatre, University New Buildings. Hyperplastic Cholecystoses and their Cholecystographic Manifestations, Professor A. Jutras (Montreal); Excretion Pyelography as a Technique, Dr. J. Hodson (London);

The Facial Smash, Dr. E. F. Crutchlow (Montreal); Pulmonary Hypertension, Dr. R. Grainger (London).

Section of Rheumatic Diseases

Joint Presidents: A. W. Bagnall, B.A., M.D., F.R.C.P.[C], M.R.C.P. (Vancouver); G. D. Kersley, T.D., F.R.C.P. (Bath).

Joint Vice-Presidents: D. C. Graham, M.D., F.R.C.P.[C] (Toronto); J. J. R. Duthie, M.B., F.R.C.P.Ed. (Edinburgh).

Hon. Secretaries: J. H. H. Glyn, M.D., M.R.C.P., D.Phys.Med., 6, Southwick Place, London, W.2; R. J. G. Sinclair, F.R.C.P.Ed., 19, Greenhill Gardens, Edinburgh, 10.

Thursday, July 23.—2.30 p.m. University West Lecture Theatre. *Symposium*: The Polyarthritic Syndrome. Chairman, Dr. W. S. C. Copeman (London). Acute Polyarthritis, Professor E. G. L. Bywaters (London); Chronic Polyarthritis, Dr. J. H. Kellgren (Manchester); Spondylitis, Dr. D. C. Graham (Toronto); Soft-tissue Rheumatism, Dr. S. Dworkin (Montreal). *Short Papers* (Chairman, Dr. J. R. L. Woodbury (Halifax, Nova Scotia): Principles of Rehabilitation for the Arthritic Patient, Dr. J. S. Crawford (Toronto); The Problem of Painful Feet, Dr. F. P. Dewar (Toronto); Diagnostic Problems in a Rheumatism Clinic, Dr. R. J. G. Sinclair (Edinburgh); Current Views on Gout and its Treatment, Dr. G. D. Kersley (Bath); Laboratory Tests and Prognosis in Rheumatoid Arthritis, Dr. A. G. S. Hill (Stoke Mandeville). *Panel Discussion*: Drugs in the Treatment of Rheumatic Disease, Dr. A. W. Bagnall (Vancouver) (chairman), Dr. J. N. Swanson (Toronto), Professor F. S. Brien (London, Ontario), Professor R. E. Tunbridge (Leeds), Dr. F. D. Hart (London).

Section of Tropical Medicine

President: Sir Alexander Biggam, K.B.E., C.B., M.D., F.R.C.P., Hon.F.R.C.P.Ed., D.T.M.&H. (Edinburgh).

Vice-Presidents: Professor P. C. C. Garnham, M.D., D.Sc., D.P.H. (Farnham Commons, Bucks.); Sir George McRobert, C.I.E., M.D., F.R.C.P., D.T.M.&H. (London).

Hon. Secretaries: Professor W. E. Kershaw, V.R.D., M.D., D.T.M.&H., Department of Entomology and Parasitology, School of Tropical Medicine, University of Liverpool, Pembroke Place, Liverpool 3; F. J. Wright, M.D., F.R.C.P.Ed., D.T.M.&H., Department of Tropical Medicine, University of Edinburgh, Surgeon's Hall, Edinburgh, 8.

Thursday, July 23.—2.30 p.m. Royal College of Surgeons of Edinburgh. Anæmia in the Tropics with Special Reference to Abnormal Hæmoglobins: Anæmia in the Tropics, Dr. R. H. Girdwood (Edinburgh); Iron-deficiency Anæmia in the Tropics, Professor A. W. Woodruff (London); The Recognition and Classification of Abnormal Hæmoglobins, Dr. H. Lehmann (London); Clinical and Demographic Aspects of Abnormal Hæmoglobins, Dr. A. B. Raper (Bristol); Sickle-cell Disease in West Africa, Professor G. M. Edington (Glasgow).

Friday, July 24.—2.30 p.m. Royal College of Surgeons of Edinburgh. The Importance of Tropical Diseases Occurring Outside the Tropics: Malaria, Professor B. G. Maegraith (Liverpool); Amœbiasis, Sir George R. McRobert (London); Filariasis, Professor W. E. Kershaw (Liverpool); Intestinal Helminths, Dr. F. J. Wright (Edinburgh).

Section of Urology

Joint Presidents: William K. Kerr, M.D., F.R.C.S.[C] (Toronto); Arthur H. Jacobs, F.R.F.P.S. (Glasgow).

Joint Vice-Presidents: J. Charbonneau, B.A., M.D., F.R.C.S.[C] (Montreal); David Band, F.R.C.S.Ed. (Edinburgh).

Hon. Secretaries: W. Selby Tulloch, F.R.C.S.Ed., 4, Douglas Gardens, Edinburgh, 4; J. D. Fergusson, M.D., F.R.C.S., 24, Upper Wimpole Street, London, W.1.

Monday, July 20.—2.30 p.m. Western General Hospital. Calcium Metabolism in Renal Calculi, Dr. J. Balfour (Vancouver); The Classification of Testicular Tumours, Dr. R. C. B. Pugh (London); Percutaneous Needle Biopsy of the Kidney, Dr. G. N. Ranking (Toronto); Experiences with Supervoltage X-ray Therapy for the Treatment of Bladder Tumours, Mr. D. Band (Edinburgh); Prognosis in Genitourinary Tuberculosis, Dr. G. L. Gale (Toronto).

TIME TABLE

Saturday, July 18

9.00 a.m.—Annual Representative Meeting. Inquiry Office opens at McEwan Hall.
9.00 a.m.—Assembly Club opens for registration of Members of Canadian Medical Association and their ladies.
9.00 a.m.—Tour to Falkland Palace and Fife to meet members of the Fife Branch (limited to 60).
9.00 a.m.—Tour to Stirling Castle and Stirlingshire to meet members of the Stirling Branch (limited to 60).
9.30 a.m.—Tour to Border Abbeys to meet members of the Border Counties Branch (limited to 60).
10.00 a.m.—City sight-seeing tours.
10.30 a.m.—Tour to Fintry, Balmaha, and Loch Lomond.
2.30 p.m.—City and other sight-seeing tours as required.
8.45 p.m.—Welcome Reception by the B.M.A. to the Members of the C.M.A. and their ladies. Civic Welcome by the Lord Provost of Edinburgh (Royal Scottish Museum, Chambers Street).
11.45 p.m.—Assembly club closes.

Sunday, July 19

10.00 a.m.—Assembly Club opens for registration of Members of the C.M.A. and their ladies.
10.30 a.m. to 6.00 p.m.—All-day tour to Lochearnhead and Perthshire.
10.45 a.m.—Robing at 63, York Place, for Catholic Service.
11.00 a.m. to 6 p.m.—Border tour via Melrose and Dryburgh Abbeys.
11.30 a.m.—Roman Catholic Service, St. Mary's Cathedral, Broughton Street.
1.00 to 6.00 p.m.—Visit to Mellerstain House (Home of the Earl of Haddington).
2.00 to 6.00 p.m.—Visit to Dirleton, North Berwick, and Tantallon Castle.
a.m. and p.m.—City sight-seeing tours as required.
3.00 p.m.—Robing in City Chambers for Religious Service.
3.30 p.m.—Official Religious Service at St. Giles' Cathedral.
5.00 p.m.—Reception for Catholic doctors at 42, Greenhill Gardens, Edinburgh, 10.
6.00 p.m.—Private supper parties for Canadians.
8.45 p.m.—Concert in the Usher Hall by the B.B.C. Scottish Orchestra, etc.
11.00 p.m.—Assembly Club closes.

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Monday, July 20

9.00 a.m.—A.R.M. Inquiry Office open at McEwan Hall.
9.00 a.m.—Assembly Club opens for registration of Members of the C.M.A. and their ladies and for ladies accompanying B.M.A. Members.
9.00 a.m.—Reception Bureau for registration of B.M.A. Members opens at the Edinburgh College of Art, Lauriston Place.
9.00 a.m.—Scientific Exhibition opens in the Edinburgh College of Art.
9.00 a.m.—Exhibition of Pharmaceutical Products, Instruments, Appliances, and Medical Publications opens in the Edinburgh College of Art.
9.00 a.m.—Exhibition of Art by Medical Men opens in the Edinburgh College of Art.
9.00 a.m.—Historical Exhibition opens in the Museum of the Royal College of Physicians of Edinburgh, Nicolson Street.
9.30 a.m.—Section of Radiology.
10.30 a.m.—Visit to Edinburgh Glass Company (limited to 25).
a.m. and p.m.—City sight-seeing tours as required.
a.m.—Visit to Royal Botanic Gardens, Edinburgh (limited to 100).
12 noon to 2 p.m.—Colour Television Program—Nurses' Recreation Hall, Royal Infirmary, and Edinburgh College of Art.
12.30 p.m.—*Annual General Meeting*, McEwan Hall.
1.00 to 6.20 p.m.—Tour via Abbotsford to Melrose and Dryburgh Abbeys.
1.45 to 6 p.m.—Tour to Linlithgow Palace, the Binns, Forth Bridge, and Dalmeny Church.
2.00 to 6 p.m.—Tour to East Lothian, Lennoxlove, and Soutra Heights.
2.00 p.m.—Visit to I.C.I., Grangemouth (limited to 100 Members of the Associations).
2.15 p.m.—Tour to Roslin Chapel.
2.15 p.m.—Visit to the *Scotsman* Office (limited to 25).
2.30 p.m.—Visit to Wm. Younger's Breweries (limited to 25).
2.30 p.m.—Visit to the Scottish National Institute for the War Blinded.
2.30 p.m.—Visit to the Thistle Foundation (limited to 25).
2.30 p.m.—Visit to McVitie and Price's Biscuit Factory (limited to 20).
2.30 p.m.—*Scientific Sections.*
2.30 p.m.—Medical Films, Edinburgh College of Art.
p.m.—Visits to Historic Houses (limited).
3.15 p.m.—Visit to Thistle Potteries, Portobello (limited to 25).
5.30 to 7 p.m.—Receptions given by: the City of Edinburgh (limited to 300); the University of Edinburgh (limited to 250); the Royal College of Physicians of Edinburgh (limited to 200); the Royal College of Surgeons of Edinburgh (limited); the College of General Practitioners (limited to 500); Mr. Roy Thomson, Proprietor of the *Scotsman* (limited to 400); the Board of Management of the Royal Edinburgh Hospital (limited to 300).
8.45 p.m.—*Adjourned Annual General Meeting* of the B.M.A. in the Usher Hall to which Members of the C.M.A. and their ladies will be invited. Address by Lord Adrian, O.M. (Cambridge); vote of thanks by Professor Wilder Penfield, O.M. (Montreal).
10.00 p.m.—Dancing in the Assembly Club.
12.30 a.m.—Assembly Club closes.

Tuesday, July 21

8.15 a.m.—Annual Breakfast of the Christian Medical Fellowship, North British Hotel.
9.00 a.m.—Reception Bureau opens for B.M.A. registration, Edinburgh College of Art.
9.00 a.m.—Scientific Exhibition opens in the Edinburgh College of Art.
9.00 a.m.—Exhibition of Pharmaceutical Products, Instruments, Appliances, and Medical Publications opens in the Edinburgh College of Art.
9.00 a.m.—Art Exhibition opens, Edinburgh College of Art.
9.00 a.m.—Historical Exhibition opens, Royal College of Surgeons of Edinburgh.
9.30 a.m.—Assembly Club opens.
10.00 a.m.—Leinster and Childe Cups Golf Competitions (Bruntsfield).
10.00 a.m.—Notts' Ladies Golf Cup Competition (Murrayfield).
10.00 a.m.—Visit to McVitie and Price's Biscuit Factory (limited to 20).
10.30 a.m.—Visit to Duncans, Chocolate Manufacturers (limited to 40).
10.30 a.m.—Visit to Edinburgh Crystal Glass Company (limited to 25).
a.m.—Visit to Royal Blind Asylum to see Braille Press (limited to 20).
11.30 a.m.—Graduation Ceremony, University of Edinburgh, in the McEwan Hall.
12 noon to 2 p.m.—Colour Television Program. Nurses' Recreation Hall, Royal Infirmary, and Edinburgh College of Art.
1.00 to 6.20 p.m.—Tour via Abbotsford to Melrose and Dryburgh Abbeys.
1.45 to 6 p.m.—Tour to Linlithgow Palace, the Binns, Forth Bridge, and Dalmeny Church.
2.00 to 6 p.m.—Tour to East Lothian, Lennoxlove, and Soutra Heights.
2.00 p.m.—Visit to Dirleton, North Berwick, and Tantallon Castle.
2.15 p.m.—Visit to Roslin Chapel.
2.15 p.m.—Visit to *Scotsman* Office (limited to 25).
2.30 p.m.—*Scientific Sections.*
2.30 p.m.—Medical Films, Edinburgh College of Art.
2.30 p.m.—Tour of Exhibitions by Professor Sir Arthur Thomson and Dr. E. Kirk Lyon.
2.30 p.m.—Visit to the Scottish National Institute for War Blinded.
2.30 p.m.—Visit to Duncans, Chocolate Manufacturers (limited to 40).
2.30 p.m.—Visit to the Thistle Foundation (limited to 25).
2.30 p.m.—Visit to Wm. Younger's Breweries (limited to 25).
2.30 p.m.—Visit to March Street Tweed Mills, Peebles (limited to 25).
2.45 p.m.—Visit to Caerlee Tweed Mills, Innerleithen (limited to 25).
3.15 p.m.—Visit to Thistle Potteries, Portobello (limited to 25).
7.30 p.m.—Annual Dinner of the B.M.A. in the Waverley Market, Princes Street. (Seating limited to 2000.) Members of the C.M.A. and their ladies will be the guests of the B.M.A.
9.00 p.m.—Dancing in the Assembly Club.
12.30 a.m.—Assembly Club closes.

Wednesday, July 22

9.00 a.m.—*Round-Table Conferences* in Adam House, Chambers Street.
9.00 a.m.—Reception Bureau opens for registration of B.M.A. Members, Edinburgh College of Art.
9.00 a.m.—Scientific Exhibition opens in the Edinburgh College of Art.
9.00 a.m.—Exhibition of Pharmaceutical Products, Instruments, Appliances, and Medical Publications opens in the Edinburgh College of Art.
9.00 a.m.—Art Exhibition opens, Edinburgh College of Art.
9.00 a.m.—Historical Exhibition opens, Royal College of Surgeons of Edinburgh.
9.30 a.m.—Assembly Club opens for registration of C.M.A. Members and their ladies.
10.00 a.m.—Visit to Lady Victoria Colliery and Medical Centre, Newtongrange (limited to 30, men only).
10.00 a.m.—Visit to McVitie and Price's Biscuit Factory (limited to 20).
10.30 a.m.—*Plenary Session* in the McEwan Hall.
10.30 a.m.—Visit to Duncans, Chocolate Manufacturers (limited to 40).
10.30 a.m.—Visit to Royal Botanic Gardens, Edinburgh (limited to 100).
11.00 a.m.—*Overseas (Representatives) Conference*, B.M.A. Scottish House, 7, Drumsheugh Gardens. Annual Report by the Secretary of the Overseas Committee, followed by general discussion.
11.00 a.m.—Mannequin Parade of Scottish Tweeds and Woollen goods, Assembly Club.
a.m.—City sight-seeing tours as required.

12 noon to 2 p.m.—Colour Television Program, Nurses' Recreation Hall, Royal Infirmary. and Edinburgh College of Art.
1.00 p.m.—Overseas' Representatives Luncheon, B.M.A. Scottish House (by invitation).
2.15 p.m.—Visit to *Scotsman* Office (limited to 25).
2.30 p.m.—*Scientific Sections.*
2.30 p.m.—Medical Films, Edinburgh College of Art.
2.30 p.m.—Visit to the Thistle Foundation (limited to 25).
2.30 p.m.—Visit to the Edinburgh Crystal Glass Company (limited to 25).
2.30 p.m.—Visit to Duncans, Chocolate Manufacturers (limited to 40).
2.30 p.m.—Visit to Wm. Younger's Breweries (limited to 25).
2.30 p.m.—Visit to Scottish National Institute for War Blinded.
3.15 p.m.—Visit to the Thistle Potteries, Portobello (limited to 25).
4.30 to 6.00 p.m.—By gracious permission of Her Majesty the Queen, a Garden Party will be held by the British Medical Association in the Gardens of the Palace of Holyroodhouse. By command of Her Majesty the Queen, His Grace the Duke of Hamilton, as Hereditary Keeper of the Palace, will receive the guests.
9.00 p.m.—Military Display on the Esplanade of Edinburgh Castle.
9.00 p.m.—Dancing in the Assembly Club.
12.30 a.m.—Assembly Club closes.

Thursday, July 23

9.00 a.m.—*Round-Table Conferences* in Adam House, Chambers Street.
9.00 a.m.—Reception Bureau opens for registration of B.M.A. Members, Edinburgh College of Art.
9.00 a.m.—Scientific Exhibition opens, Edinburgh College of Art.
9.00 a.m.—Exhibition of Pharmaceutical Products, Instruments, Appliances, and Medical Publications opens, Edinburgh College of Art.
9.00 a.m.—Art Exhibition opens, Edinburgh College of Art.
9.00 a.m.—Historical Exhibition opens, Royal College of Surgeons of Edinburgh.
9.00 a.m.—Assembly Club opens for registration of C.M.A. Members and their ladies.
9.00 a.m. to 9.00 p.m. approx.—All-day visit to Argyllshire to meet members of the Argyll Division; Dinner at Stirling on return journey (limited to 60).
9.00 a.m. to 6.00 p.m.—All-day visit to Stirling Castle and Stirlingshire to meet members of the Stirling Branch (limited to 60).
9.00 a.m. to 6.00 p.m.—All-day visit to Falkland Palace and St. Andrews to meet members of the Fife Branch (limited to 60).
9.00 a.m. to 7.00 p.m.—All-day visit to Perthshire to meet members of the Perth Branch (limited to 40).
9.15 a.m. to 6.00 p.m.—Visit to Cambus Distillery, Alloa (limited to 50).
9.30 a.m. to 6.00 p.m.—All-day visit to the Border Abbeys to meet members of the Border Counties Branch (limited to 60).
9.30 a.m. to 5.45 p.m.—All-day visit to Ayrshire and the Burns Country to meet members of the Ayrshire Division (limited to 60).
9.30 a.m.—Visit to Scottish National Institute for War Blinded (limited to 20).
10.00 a.m.—Treasurers' Cup Golf Competition (Bruntsfield).
10.00 a.m.—Visit to the Royal Botanic Gardens, Edinburgh (limited to 100).
10.30 a.m.—*General Session* in the McEwan Hall.
12 noon to 2 p.m.—Colour Television Program, Nurses' Recreation Hall, Royal Infirmary, and Edinburgh College of Art.
1.00 p.m.—R.A.M.C.-R.C.A.M.C. Luncheon.
2.00 p.m.—Visit to Duncan, Flockhart and Co., Manufacturing Chemists (limited to 72 medical members only).
2.00 p.m.—Sight-seeing tours as required.
2.15 p.m.—Visit to the *Scotsman* Office (limited to 25).
2.30 p.m.—*Scientific Sections.*
2.30 p.m.—Medical Films in the Edinburgh College of Art.
2.30 p.m.—Visit to Wm. Younger's Breweries (limited to 25).
2.30 p.m.—Visit to McVitie and Price's Biscuit Factory (limited to 20).
2.30 p.m.—Visit to March Street Tweed Mills, Peebles (limited to 25).
2.45 p.m.—Visit to Caerlee Mill, Innerleithen (limited to 25).
3.15 p.m.—Visit to the Thistle Potteries, Portobello (limited to 25).
7.30 p.m.—Theatres.
9.00 p.m.—Dancing in the Assembly Club.
12.30 a.m.—Assembly Club closes.

Friday, July 24

9.00 a.m.—Reception Bureau opens for registration of B.M.A. Members, Edinburgh College of Art.
9.00 a.m.—Scientific Exhibition opens, Edinburgh College of Art.
9.00 a.m.—Exhibition of Pharmaceutical Products, Instruments, Appliances, and Medical Publications opens, Edinburgh College of Art.
9.00 a.m.—Art Exhibition opens, Edinburgh College of Art.
9.00 a.m.—Historical Exhibition opens, Royal College of Surgeons of Edinburgh.
9.00 a.m.—*Round-Table Conferences*, Adam House, Chambers Street.
9.00 a.m.—Assembly Club opens for registration of C.M.A. Members and their ladies.
9.00 a.m. to 6.30 p.m.—Sail on the Clyde—all-day excursion (limited to 600) to meet members of the City of Glasgow Division.
9.15 a.m. to 6.00 p.m.—Visit to Cambus Distillery, Alloa (limited to 50).
10.00 a.m.—Visit to McVitie and Price's Biscuit Factory (limited to 20).
10.00 a.m.—Visit to Lady Victoria Colliery and Medical Centre, Newtongrange (limited to 30, men only).
10.30 a.m.—*Plenary Session* at the McEwan Hall.
12 noon to 2 p.m.—Colour Television Program, Nurses' Recreation Hall, Royal Infirmary, and Edinburgh College of Art.
1.45 p.m.—Visit to John Buchan country and Traquair House (limited to 60).
p.m.—Tours as on previous days to Linlithgow, Abbotsford, and Melrose, etc. (as required).
2.15 p.m.—Visit to the *Scotsman* Office (limited to 25).
2.15 p.m.—Visit to Ethicon Suture Laboratories (limited to 50).
2.30 p.m.—*Scientific Sections.*
2.30 p.m.—Medical Films, Edinburgh College of Art.
2.30 p.m.—International Golf Match between teams of B.M.A. and C.M.A. at Muirfield, Gullane, East Lothian.
3.15 p.m.—Visit to Thistle Potteries, Portobello (limited to 25).
9.00 p.m.—Farewell Party in the Assembly Club.
12.30 a.m.—Assembly Club closes.

COLOUR TELEVISION AT EDINBURGH

At the joint meeting of the British Medical Association and the Canadian Medical Association in Edinburgh, July 20-24, Smith Kline and French Laboratories Ltd., London, England, will sponsor medical colour television. Details of the presentations are given on page 560.

The use of colour television as a technique in medical education was pioneered by Smith Kline and French in North America ten years ago. Introduced to the United Kingdom in 1957, the colour TV equipment was shipped from the United States to take part in four medical meetings held in the summer of that year—

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Royal College of Surgeons of England, Harveian Tercentenary, Royal College of Surgeons of Edinburgh and the British Medical Association.

As a result of these first successful demonstrations, Smith Kline and French established permanent medical colour TV equipment in the United Kingdom. The entire cost of the equipment, built by Marconi's Wireless Telegraph Company Limited, is borne by Smith Kline and French with the object of advancing medical teaching. The ten tons of mobile colour TV equipment is at the free disposal of medical authorities in the United Kingdom for use at conventions or similar functions.

Smith Kline and French have sponsored demonstrations of medical colour television methods of teaching in many parts of the world—the U.S.A., Canada, Mexico and the Continent. It is estimated that more than half a million doctors and students have seen the proceedings. The response of audiences has left no doubt that this new medium in medical teaching possesses far-reaching advantages.

COMMITTEE ON ECONOMICS

The Committee on Economics of the Canadian Medical Association held its second meeting of the 1958-59 season on March 6 and 7, at C.M.A. House, Toronto, with Dr. R. K. C. Thomson in the Chair. The Committee had a long agenda to consider, and their debates on Friday and Saturday involved the addition of a night meeting on Friday night.

The agenda began with consideration of the report of the sub-committee on insurance forms. The Committee approved a standard form which had been worked out, and agreed that it should be transmitted to the Executive Committee of the C.M.A. They next considered matters arising out of the operation of the Newfoundland Children's Health Service. Each member of the Committee then informed the meeting of changes in the status of hospital insurance in his particular province, so as to bring up to date the memorandum presented at the last meeting. The treatment of non-entitled veterans in D.V.A. hospitals was also discussed.

The C.M.A. Department of Medical Economics had three items for discussion: (1) the Economic Newsletter, which was warmly approved by the Committee; (2) the survey of salaried physicians, on which progress was reported; (3) the provincial programs for medical care of indigents. A document was presented to the Committee describing coverage, benefits and findings in each province.

Mr. Freamo brought in a progress report on the Relative Value Studies, which had now reached a stage at which they should be considered in each province by the appropriate committee. This progress report was carefully analyzed by the Committee. A working document on the interest of government in the practice of medicine, amounting to a detailed analysis of the implications of the "Statement of Policy" of the Canadian Medical Association on health insurance, was also studied and debated in great detail.

The meeting was adjourned on Saturday afternoon until May 1 and 2.

THE CANADIAN MEDICAL RETIREMENT SAVINGS PLAN

February 28 marked the 1958 year-end for the Canadian Medical Retirement Savings Plan. On that date the moneys deposited in the special C.M.R.S.P. Bank of Montreal savings accounts were officially transferred to the Plan.

Contributions for the final quarter of 1958 totalled $1,225,684. Of this amount $798,797 was contributed to the common stock fund and $426,887 to the insured annuity fund. Total contributions for 1958 were in excess of $2,400,000 and the total of moneys contributed to date exceeds $4,300,000.

During 1958 more than 300 doctors submitted applications for participation in the Plan. This brought the total number of participants to 2050—a number which compares favourably with the enrolment in any other registered retirement savings plan in Canada.

Insured Annuity Fund

During the past year moneys invested in the insured annuity fund were credited with interest at the rate of 4.5% per annum. This is 1% higher than the minimum rates guaranteed in our contract and demonstrates the advantages of a participating agreement. We have been advised by The National Life Assurance Company that this 4.5% interest rate will again be credited to invested moneys for the period March 1, 1959—February 29, 1960.

This interest rate reflects the continuation of the high level of net interest earnings of The National Life Assurance Company of Canada. Under the terms of our contract the rate credited to members' funds cannot fall below 3.5%. During the period November 1957 to February 1958 the actual interest rate was 4.25% and since that time has been 4.5%.

The Common Stock Fund

On February 28, 1959, the value of each unit in the common stock fund was $12.63, an increase from $11.82 on November 30, 1958. During the last quarter common stocks of 37 companies were purchased. Two holdings were sold – 500 shares of Distillers Corp. – Seagram and 200 shares of Steinbergs Ltd.

As a result of these transactions the following is a statement of the assets of the fund, their valuation and the unit value as at February 28, 1959.

CANADIAN MEDICAL RETIREMENT SAVINGS PLAN
COMMON STOCK FUND

Valuation of Assets at February 28, 1959

No. of Shares	*Description*	*Feb. 28, 1959 Value*
Canadian Stocks:		
1825	Bank of Montreal	$101,287.50
875	Bank of Nova Scotia	59,062.50
1650	Canadian Bank of Commerce	94,462.50
1300	Royal Bank of Canada	101,725.00
1225	Toronto-Dominion Bank	68,600.00
800	Hiram Walker Gooderham & Worts	27,800.00
1425	Canadian Breweries Ltd.	54,862.50
2075	Molson's Brewery Class "A"	52,653.12
1000	Building Products Ltd.	37,000.00
1200	Canada Cement	42,300.00
1500	Canadian Industries Ltd	26,812.50
500	Canadian Westinghouse	26,500.00
1025	Algoma Steel Corp.	39,462.50
700	Steel Co. of Canada Ltd	53,725.00
360	Confederation Life Association	58,770.00

240	Manufacturers Life Insurance Co.	60,720.00
1825	Loblaw Companies "A"	73,000.00
1950	Simpsons Ltd.	68,006.25
925	Zellers Ltd.	34,687.50
1050	Asbestos Corporation	35,700.00
100	Aluminium Ltd.	2,800.00
1100	Hollinger Consolidated Gold Mines Ltd.	34,925.00
800	Moore Corporation	78,800.00
1000	Page-Hersey Tubes	36,125.00
175	Dominion Glass Co.	15,750.00
1150	British American Oil	46,287.50
725	Imperial Oil	31,628.12
400	Texaco Canada Ltd. (formerly McColl-Frontenac)	27,550.00
1000	Consolidated Paper	43,250.00
675	Great Lakes Paper	27,843.75
775	Howard Smith	35,650.00
1000	Powell River Co.	42,625.00
1000	St. Lawrence Corp. Ltd.	19,375.00
975	Interprovincial Pipe Line	49,603.12
500	Calgary Power	44,000.00
600	Gatineau Power	24,000.00
1400	Shawinigan Water & Power	47,250.00
500	British Columbia Power Co.	19,125.00
1700	Consumers Gas Co.	61,625.00
825	Trans Canada Pipe Lines Ltd.	22,171.87
2450	Union Gas Co.	40,425.00
2000	Bell Telephone Co. of Canada	87,000.00
	TOTAL Canadian Stocks	$1,954,946.23

United States Stocks:

750	Dow Chemical	64,875.00	
205	E. I. Dupont de Nemours	43,870.00	
825	General Electric	65,793.75	
400	Owens Illinois Glass	36,300.00	
152½	International Business Machines Company	80,672.50	
800	Standard Oil of New Jersey	40,800.00	
	Total	332,311.25	
	Less: 2-5/8% discount on U.S. Funds	8,723.18	
	TOTAL United States Stocks		323,588.07
	TOTAL VALUE OF STOCKS		$2,278,534.30
Total Value of Stocks			2,278,534.30
Cash Balance February 28, 1959			768.48
Dividends declared but unpaid on stocks selling ex dividend			5,473.22
			$2,284,776.00
Less: Outstanding payment *Re:* Purchase of 15 shares International Business Machines			7,385.14
			$2,277,390.86
Less: Administration Expense Allowance 1/8% quarterly			2,846.74
Net Value of Fund			$2,274,544.12

On the basis of 180,081.040 outstanding units, the unit value is $12.63. Contributions made to the common stock fund during the three months prior to February 28 will purchase units at this rate.

Trusteeship Committee

On March 14 the Trusteeship Committee met with officials of The Royal Trust Company to establish policy with respect to the investment of almost $800,000 contributed to the common stock fund during the last quarterly period. The Committee was pleased with the results obtained during the previous quarter and commended our fund managers on the timing of their purchases. The value of each unit rose from $11.82 on December 1, 1958 to $12.63 on February 28, 1959. On December 1, 1957, the value of each unit was $10.00.

It was agreed that approximately 75% of the recent contributions would be invested during the next three months and that 25% of the contributions would be deferred for investment during the second quarter of this year. A broad representative list of stocks was approved for investment. Of major interest was the decision to begin investment in the automobile and instalment finance industries and to step up the rate of investment in the metal industries.

Statements and Income Tax Receipts

During the month of March a detailed statement setting out the amount and allocation of each member's contribution was forwarded to each participant. The income tax receipt forms part of the statement and should be detached and filed with your income tax return.

If you have not received your statement please notify this office immediately in order that we may provide a duplicate receipt.

Notice to Non-Participants

If you wish to obtain more information about C.M.R.S.P., please write to The Association office, at 150 St. George Street, Toronto 5. Brochures and other informative literature are available on request. The basic outline of C.M.R.S.P. is simple and extremely flexible, and participation will enable you to obtain tax relief now on savings which you invest to provide retirement income.

CANADIAN JOURNAL OF SURGERY

The April issue of the *Canadian Journal of Surgery* contains a varied series of contributions including several of the subspecialties of surgery. This contents list will give an indication of the scope of this latest issue:

History of Canadian Surgery.—Sir William Hales Hingston (1829-1907) (E. Desjardins).

Original Articles.—An Evaluation of Aseptic and Antiseptic Techniques as Practised in a Modern Hospital. I: Operating Theatres (M. W. Nimeck, G. E. Myers and W. C. MacKenzie). Fat Embolism: An Experimental Study Using Quartz Rod Microscopy (T. D. R. Briant and W. R. Harris). Les cylindromes des glandes salivaires (S. Plourde and J. L. Bonenfant). Carcinoma of the Breast: A Reassessment (R. M. Janes). Crush Injuries to the Chest (W. R. Ghent). The Cross Finger Pedicle Flap in the Repair of Finger Tip Injuries (D. C. Robertson). Scalene Node Biopsy: A Post-mortem Study (A. R. Downs and L. S. McMorris). Simple Ulcer of the Colon: Report of Four Cases (M. H. W. Friedman and W. C. MacKenzie). The Normal Movement at the Sub-talar Joint (M. C. Hall). The Effect of Triethylene Thiophosphoramide (Thiotepa) and 17-Ethyl-19-Nortestosterone (Nilevar) on Wound Healing (W. Pisesky, H. T. G. Williams and W. C. MacKenzie). The Present Status of the Gastric Antrum (R. C. Harrison).

Case Reports.—Chondrosarcome du bras (A. Genest and J. R. Gareau). Abdominal Actinomycosis Presenting Unusual Features (G. R. Davies and R. B. Lynn). Strangulated Adnexa in Infantile Hernia (L. S. A. Boothroyd).

The issue also includes a book review section which will be of interest to all surgeons.

Back copies of the Journal may still be obtained from: *Canadian Journal of Surgery*, 150 St. George Street, Toronto 5, Ontario.

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CANADIAN HOSPITALS APPROVED FOR ADVANCED GRADUATE TRAINING

by

THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA

as at March 31, 1959
(previous lists are superseded by this list)

HOSPITALS LISTED ACCORDING TO SPECIALTIES

Specialty of:	Page Number
Anæsthesia	572
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Radiology (Diagnostic)	576
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SPECIALTY OF ANÆSTHESIA

Calgary General Hospital—3	Calgary, Alberta
Edmonton General Hospital—3	Edmonton, "
Royal Alexandra Hospital—4(j)	" "
University of Alberta Hospital—8	" "
Royal Columbian Hospital—3	New Westminster, B.C.
St. Paul's Hospital—3	Vancouver, B.C.
St. Vincent's Hospital—2(b)	" "
Shaughnessy Hospital (D.V.A.)—5 and 6	" "
Vancouver General Hospital—8	" "
St. Boniface Hospital—8	St. Boniface, Man.
Children's Hospital—3(o)	Winnipeg, "
Deer Lodge Hospital (D.V.A.)—5 and 6	" "
Winnipeg General Hospital—8	" "
Salvation Army Grace Hospital—2(c)	" "
Saint John General Hospital—3(j)	Saint John, N.B.
St. John's General Hospital—3	St. John's, Nfld.
Camp Hill Hospital (D.V.A.)—3 and 6	Halifax, Nova Scotia
The Children's Hospital—1	" " "
Victoria General Hospital—8	" " "
Hamilton General Hospitals—4	Hamilton, Ontario
St. Joseph's Hospital—3	" "
Hotel-Dieu Hospital—3	Kingston, "
Kingston General Hospital—8	" "
St. Joseph's Hospital—3(k)	London, "
Victoria Hospital—8	" "
Westminster Hospital (D.V.A.) 5 and 6	" "
Ottawa Civic Hospital—3	Ottawa, "
Hospital for Sick Children—3	Toronto, "
New Mount Sinai Hospital—3(a)	" "
St. Joseph's Hospital—3	" "
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto East General and Orthopædic Hospital—8	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—8	" "
Women's College Hospital—3(d)	" "
Toronto Hospital for Tuberculosis—3	Weston, "
Hôtel-Dieu Saint-Vallier—3	Chicoutimi, Quebec
Hôpital du Sacré-Cœur—4	Montreal, "
Hôpital Maisonneuve—4	" "
Hôpital Notre-Dame—8	Montreal, Quebec
Hôpital Saint-Luc—2(b)	" "
Hôpital Sainte-Justine—3(g)	" "
Hôtel-Dieu de Montréal—8	" "
Montreal Children's Hospital—3	" "
Montreal General Hospital—8	" "
Montreal Neurological Institute—3	" "
Queen Elizabeth Hospital—3	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Reddy Memorial Hospital—3	" "
Royal Victoria Hospital—8	" "
St. Mary's Hospital—3	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
L'Hôpital Laval—3	" "
Hôpital du Saint-Sacrement—8	" "
Hôpital St-François-d'Assise—3	" "
L'Hôtel-Dieu de Québec—8	" "
Hôpital Général St-Vincent-de-Paul—3(a)	Sherbrooke, "
Hôpital Général de Verdun—3(a)	Verdun, "
Hôpital Notre-Dame-de-l'Espérance—3(g)	Ville St-Laurent, Quebec
Regina General Hospital—3	Regina, Sask.
University Hospital—8	Saskatoon, Sask.

SPECIALTY OF BACTERIOLOGY

University of Alberta Hospital—8	Edmonton, Alberta
Vancouver General Hospital—8	Vancouver, B.C.
Winnipeg General Hospital—4(g)	Winnipeg, Manitoba
St. John's General Hospital—3(c)	St. John's, Nfld.
Victoria General Hospital—8	Halifax, Nova Scotia
Mountain Sanatorium—2	Hamilton, Ontario
Kingston General Hospital—8	Kingston, "
Hospital for Sick Children—3(g)	Toronto, "
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto East General and Orthopædic Hospital—3	" "
Toronto General Hospital—8	" "
Women's College Hospital—3	" "
Toronto Hospital for Tuberculosis—2	Weston, "
Hôpital Notre-Dame—8	Montreal, Quebec
Hôpital Sainte-Justine—3(g)	" "
Hôtel-Dieu de Montréal—8	" "
Montreal Children's Hospital—3(g)	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Victoria Hospital—8	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
Hôpital du Saint-Sacrement—8	" "
University Hospital—4(1)	Saskatoon, Sask.

SPECIALTY OF DERMATOLOGY

Hospital for Sick Children—2(d)	Toronto, Ontario
Sunnybrook Hospital (D.V.A.)—3 and 6	" "
Toronto General Hospital—8	" "
Hôpital Notre-Dame—8	Montreal, Quebec
Hôtel-Dieu de Montréal—8	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—3 and 6	" "
Royal Victoria Hospital—8	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
Hôpital du Saint-Sacrement—8	" "
L'Hôtel-Dieu de Québec—8	" "

SPECIALTY OF INTERNAL MEDICINE

Baker Memorial Sanatorium—3(g)	Calgary, Alberta
Colonel Belcher Hospital (D.V.A.)—3 and 6	" "
Aberhart Memorial Sanatorium—3(g)	Edmonton, "
Charles Camsell Indian Hospital—3(g)	" "
Edmonton General Hospital—3	" "
Misericordia Hospital—3(a)	" "
Royal Alexandra Hospital—3	" "
University of Alberta Hospital—8	" "

For numerical references, see pages 577 and 578.

St. Paul's Hospital—3(d)	Vancouver, B.C.
Shaughnessy Hospital (D.V.A.)—5 and 6	" "
Vancouver General Hospital—8	" "
Vancouver Unit, Division of Tuberculosis Control—3(g)	" "
Victoria Veterans' Hospital (D.V.A.)—3 and 6	Victoria, "
Manitoba Sanatorium—3(g)	Ninette, Man.
St. Boniface Hospital—4	St. Boniface, "
St. Boniface Sanatorium—3(g)	St. Vital, "
Deer Lodge Hospital (D.V.A.)—5 and 6	Winnipeg, "
Winnipeg Clinic—3(g)	" "
Winnipeg General Hospital—8	" "
Lancaster Hospital (D.V.A.)—3 and 6	Saint John, N.B.
Saint John General Hospital—3(j)	" " "
St. John's General Hospital—3(d)	St. John's, Nfld.
Camp Hill Hospital (D.V.A.)—5 and 6	Halifax, Nova Scotia
Halifax Tuberculosis Hospital—3(g)	" " "
Victoria General Hospital—8	" " "
Nova Scotia Sanatorium—3(g)	Kentville, " "
Point Edward Hospital—2(e)	Sydney, " "
Kingston Military Hospital—3(c)	Barriefield, Ontario
Hamilton General Hospitals—4(n)	Hamilton, "
Mountain Sanatorium—3(g)	" "
Hotel-Dieu Hospital—3(a)	Kingston, "
Kingston General Hospital—8	" "
Beck Memorial Sanatorium—3(g)	London, "
St. Joseph's Hospital—3	" "
Victoria Hospital—8	" "
Westminster Hospital (D.V.A.)—5 and 6	" "
Ottawa Civic Hospital—4	Ottawa, "
Ottawa General Hospital—4(b)	" "
New Mount Sinai Hospital—3(f)	Toronto, Ontario
St. Joseph's Hospital—3	" "
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto East General and Orthopædic Hospital—3	" "
Toronto General Hospital—8	" "
Toronto Military Hospital—3(g)	" "
Toronto Western Hospital—8	" "
Women's College Hospital—3(d)	" "
Toronto Hospital for Tuberculosis—3(g)	Weston, "
Hôtel-Dieu St-Vallier—4	Chicoutimi, Quebec
Hôpital du Sacré-Cœur—3(g)	Montreal, "
Hôpital Maisonneuve—5(b)	" "
Hôpital Notre-Dame—8	" "
Hôpital Saint-Luc—4	" "
Hôtel-Dieu de Montréal—8	" "
Institut de Cardiologie de Montréal—3(g)	" "
Jewish General Hospital—5(c)	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Edward Laurentian Hospital—3(g) (Montreal and Laurentian Divisions)	Montreal and Ste-Agathe-des-Monts, Quebec
Royal Victoria Hospital—8	Montreal, Quebec
St. Mary's Hospital—3(d)	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
Hôpital du Saint-Sacrement—8	" "
L'Hôpital Laval—3(g)	" "
Hôpital St-François d'Assise—3	" "
Hôpital Ste-Foy (D.V.A.)—5 and 6	" "
L'Hôtel-Dieu de Québec—8	" "
Ste. Anne's Hospital (D.V.A.)—5 and 6	Ste-Anne-de-Bellevue, Quebec
Hôpital Général St-Vincent-de-Paul—3(c)	Sherbrooke, Quebec
Hôpital Général de Verdun—4(b)	Verdun, "
Regina General Hospital—3(i)	Regina, Sask.
St. Paul's Hospital—3	Saskatoon, "
Saskatoon City Hospital—3(o)	" "
University Hospital—8	" "

For numerical references, see pages 577 and 578.

SPECIALTY OF NEUROLOGY

Vancouver General Hospital—3(a)	Vancouver, B.C.
Hospital for Sick Children—3(g)	Toronto, Ontario
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto General Hospital—8	" "
Hôpital Notre-Dame—8	Montreal, Quebec
Hôpital Sainte-Justine—3(g)	" "
Hôtel-Dieu de Montréal—8	" "
Montreal Children's Hospital—3(g)	" "
Montreal General Hospital—8	" "
Montreal Neurological Institute—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—3 and 6	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
University Hospital—4(a)	Saskatoon, Sask.

SPECIALTY OF NEUROSURGERY

University of Alberta Hospital—8	Edmonton, Alberta
Deer Lodge Hospital (D.V.A.)—5 and 6	Winnipeg, Manitoba
Winnipeg General Hospital—3(a)	" "
Victoria General Hospital—8(a)	Halifax, Nova Scotia
Hospital for Sick Children—3	Toronto, Ontario
St. Michael's Hospital—3(a)	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—3(a)	" "
Hôpital Notre-Dame—8	Montreal, Quebec
Hôtel-Dieu de Montréal—3(a)	" "
Montreal Neurological Institute—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
University Hospital—4(m)	Saskatoon, Sask.

SPECIALTY OF OBSTETRICS AND GYNÆCOLOGY

Royal Alexandra Hospital—4(b)	Edmonton, Alberta
University of Alberta Hospital—8	" "
St. Paul's Hospital—3(d)	Vancouver, B.C.
Vancouver General Hospital—8	" "
St. Boniface Hospital—3(a)	St. Boniface, Man.
Winnipeg General Hospital—8	Winnipeg, "
Saint John General Hospital—3(j)	Saint John, N.B.
St. Joseph's Hospital—3	Hamilton, Ontario
Hamilton General Hospitals—3	" "
Hotel-Dieu Hospital—3(a)	Kingston, "
Kingston General Hospital—8	" "
St. Joseph's Hospital—3	London, "
Victoria Hospital—8	" "
Ottawa Civic Hospital—3	Ottawa, "
Ottawa General Hospital—4(a)	" "
Grace Hospital—3	Toronto, "
New Mount Sinai Hospital—3(d)	" "
St. Joseph's Hospital—3	" "
St. Michael's Hospital—8	" "
Toronto East General and Orthopædic Hospital—3	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—8	" "
Women's College Hospital—4(o)	" "
Hôpital Notre-Dame—8	Montreal, Quebec
Jewish General Hospital—4(g)	" "
Queen Elizabeth Hospital—2	" "
Reddy Memorial Hospital—3	" "
Royal Victoria Hospital—8	" "
St. Mary's Hospital—3(a)	" "
Hôpital de l'Enfant-Jésus—3	Quebec, "
Hôpital du Saint-Sacrement—8	" "
Regina General Hospital—3(i)	Regina, Sask.
University Hospital—8	Saskatoon, Sask.

SPECIALTY OF OBSTETRICS

Salvation Army Grace Hospital—3(d)	Winnipeg, Manitoba
Grace Maternity Hospital—8	Halifax, Nova Scotia
Hôtel-Dieu Saint-Vallier—3(a)	Chicoutimi, Quebec
Catherine Booth Maternity Hospital—2(b)	Montreal, "
Hôpital Maisonneuve—3(a)	" "
Hôpital Sainte-Justine—4(n)	" "
Montreal General Hospital—3	" "

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Hôpital de la Miséricorde—3(d)	Quebec, Quebec
Hôpital St-François-d'Assise—3	" "

SPECIALTY OF GYNÆCOLOGY

Victoria General Hospital—8	Halifax, Nova Scotia
Hôpital Maisonneuve—3(a)	Montreal, Quebec
Hôtel-Dieu de Montréal—8	" "
Montreal General Hospital—8	" "
L'Hôtel-Dieu de Québec—8	Quebec, "

SPECIALTY OF OPHTHALMOLOGY

University of Alberta Hospital—8	Edmonton, Alberta
Shaughnessy Hospital (D.V.A.)—3(g) and 6	Vancouver, B.C.
Vancouver General Hospital—8	" "
Winnipeg General Hospital—3(a)	Winnipeg, Manitoba
Saint John General Hospital—3(j)	Saint John, N.B.
Kingston General Hospital—3(a)	Kingston, Ontario
Victoria Hospital—4(1)	London, "
Hospital for Sick Children—2(d)	Toronto, Ontario
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—8	" "
Hôpital Maisonneuve—3(a)	Montreal, Quebec
Hôpital Notre-Dame—8	" "
Hôtel-Dieu de Montréal—8	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Victoria Hospital—8	" "
Hôpital St-François-d'Assise—3	Quebec, "
Hôpital du Saint-Sacrement—8	" "
L'Hôtel-Dieu de Québec—8	" "
University Hospital—5	Saskatoon, Sask.

SPECIALTY OF ORTHOPÆDIC SURGERY

Royal Alexandra Hospital—3(a)	Edmonton, Alberta
University of Alberta Hospital—8	" "
Children's Hospital—2	Vancouver, B.C.
Shaughnessy Hospital (D.V.A.)—5 and 6	" "
St. Paul's Hospital—3(k)*	" "
Vancouver General Hospital—8	" "
Children's Hospital—2	Winnipeg, Manitoba
Deer Lodge Hospital (D.V.A.)—5 and 6	" "
Shriners' Hospital for Crippled Children (Winnipeg Unit)—2(b)	" "
Winnipeg General Hospital—5	" "
Hospital for Sick Children—3	Toronto, Ontario
St. Joseph's Hospital—3	" "
St. Michael's Hospital—3(a)	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—3(a)	" "
Toronto Hospital for Tuberculosis—2	Weston, "
Hôtel-Dieu St-Vallier—3	Chicoutimi, Quebec
Hôpital Notre-Dame—3	Montreal, Quebec
Hôpital du Sacré-Cœur—8	" "
Hôpital Saint-Luc—4	" "
Hôpital Sainte-Justine—3	" "
Hôtel-Dieu de Montréal—3(a)	" "
Montreal Children's Hospital—3	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Victoria Hospital—8	" "
Shriners' Hospital for Crippled Children—3(d)	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
L'Hôtel-Dieu de Québec—3	" "
Hôpital Général de Verdun—4(a)	Verdun, "
University Hospital—8	Saskatoon, Sask.

For numerical references, see pages 577 and 578.

SPECIALTY OF OTOLARYNGOLOGY

University of Alberta Hospital—8	Edmonton, Alberta
Shaughnessy Hospital (D.V.A.)—3(g) and 6	Vancouver, B.C.
Vancouver General Hospital—8	" "
Saint John General Hospital—3(j)	Saint John, N.B.
Hospital for Sick Children—2(d)	Toronto, Ontario
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—8	" "
Hôtel-Dieu Saint-Vallier—3(g)	Chicoutimi, Quebec
Hôpital Notre-Dame—8	Montreal, Quebec
Hôpital Saint-Luc—3	" "
Hôpital Sainte Justine—3(g)	" "
Hôtel-Dieu de Montréal—8	" "
Montreal Children's Hospital—2(c)	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Victoria Hospital—8	" "
Hôpital St-François-d'Assise—3	Quebec, "
Hôpital du Saint-Sacrement—8	" "
L'Hôtel-Dieu de Québec—8	" "

SPECIALTY OF PÆDIATRICS

Royal Alexandra Hospital—3	Edmonton, Alberta
University of Alberta Hospital—4	" "
Children's Hospital—2	Vancouver, B.C.
St. Paul's Hospital—3	" "
Vancouver General Hospital—8	" "
St. Boniface Hospital—3(d)	St. Boniface, Man.
Children's Hospital—8	Winnipeg, "
Winnipeg General Hospital—2(d)	" "
Saint John General Hospital—3	Saint John, N.B.
Children's Hospital—4	Halifax, Nova Scotia
Hamilton General Hospitals—3	Hamilton, Ontario
Kingston General Hospital—3	Kingston, "
Victoria Hospital—4	London, "
Ottawa Civic Hospital—3	Ottawa, "
Ottawa General Hospital—4(b)	" "
Hospital for Sick Children—8	Toronto, "
New Mount Sinai Hospital—3(g)	" "
St. Joseph's Hospital—3	" "
Hôpital Maisonneuve—3(a)	Montreal, Quebec
Hôpital Notre-Dame—8	" "
Hôpital Pasteur—2	" "
Hôpital Sainte-Justine—8	" "
Jewish General Hospital—2(a)	" "
Montreal Children's Hospital—8	" "
Royal Victoria Hospital—8	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
Hôpital du Saint-Sacrement—8	" "
L'Hôtel-Dieu de Québec—8	" "
Hôpital Général de Verdun—4(a)	Verdun, "
Regina General Hospital—3(i)	Regina, Sask.
University Hospital—3	Saskatoon, Sask.

SPECIALTY OF PATHOLOGY

Calgary General Hospital—3(a)	Calgary, Alberta
Holy Cross Hospital—3(a)	" "
Provincial Laboratory of Public Health (Southern Branch)—3(k)	" "
Edmonton General Hospital—4	Edmonton, Alberta
Misericordia Hospital—4(p)	" "
Royal Alexandra Hospital—4	" "
University of Alberta Hospital—8	" "
St. Michael's General Hospital—3	Lethbridge, "
Royal Columbian Hospital—3(d)	New Westminster, B.C.
Shaughnessy Hospital (D.V.A.)—5 and 6	Vancouver, B.C.
St. Paul's Hospital—4(p)	" "
Vancouver General Hospital—8	" "
Royal Jubilee Hospital—3	Victoria, "
St. Boniface Hospital—4	St. Boniface, Man.
Children's Hospital—3(g)	Winnipeg, "
Deer Lodge Hospital (D.V.A.)—5 and 6	" "
Winnipeg General Hospital—8	" "

Lancaster Hospital (D.V.A.)—2 and 6	Saint John, N.B.
Saint John General Hospital—4(a)	" " "
St. John's General Hospital—3	St. John's, Nfld.
Camp Hill Hospital (D.V.A.)—3(1) and 6	Halifax, Nova Scotia
Victoria General Hospital—8	" " "
Regional Laboratory—3(g)	Fort William, Ont.
Hamilton General Hospitals—4	Hamilton, Ontario
Mountain Sanatorium—2	" "
St. Joseph's Hospital—3	" "
Hotel-Dieu Hospital—3	Kingston, "
Kingston General Hospital—8	" "
Regional Laboratory—3(g)	London, "
Victoria Hospital—8	" "
Westminster Hospital (D.V.A.)—3 and 6	" "
Ottawa Civic Hospital—8	Ottawa, "
Ottawa General Hospital—8	" "
Central Laboratory—3(g)	Toronto, "
Hospital for Sick Children—3(g)	" "
New Mount Sinai Hospital—3(d)	" "
St. Joseph's Hospital—3	" "
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A)—5 and 6	" "
Toronto East General and Orthopædic Hospital—3	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—8	" "
Women's College Hospital—3(m)	" "
Toronto Hospital for Tuberculosis—2	Weston, "
Metropolitan General Hospital—4(p)	Windsor, "
Hôtel-Dieu Saint-Vallier—3(k)	Chicoutimi, Quebec
Hôpital du Sacré-Cœur—3(n)	Montreal, "
Hôpital Maisonneuve—3(d)	" "
Hôpital Notre-Dame—8	" "
Hôpital Saint-Luc—4	" "
Hôpital Sainte-Justine—3(g)	" "
Hôtel-Dieu de Montréal—8	" "
Jewish General Hospital—5(d)	" "
Montreal Children's Hospital—3(g)	" "
Montreal General Hospital—8	" "
Queen Elizabeth Hospital—3(a)	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Reddy Memorial Hospital—3	" "
Royal Victoria Hospital—8	" "
St. Mary's Hospital—3(d)	" "
L'Hôpital Laval—3(1)	Quebec, "
Hôpital St-François-d'Assise—3	" "
Hôpital de l'Enfant-Jésus—4(q)	" "
Hôpital du Saint-Sacrement—8	" "
L'Hôtel-Dieu de Québec—8	" "
Hôpital Général St-Vincent-de-Paul—3	Sherbrooke, "
Hôpital Général de Verdun—3	Verdun, "
Regina General Hospital—3(i)	Regina, Sask.
Regina Grey Nuns' Hospital—3	" "
Saskatoon City Hospital—4	Saskatoon, Sask.
St. Paul's Hospital—3	" "
University Hospital—8	" "

SPECIALTY OF PHYSICAL MEDICINE AND REHABILITATION

University of Alberta Hospital—4	Edmonton, Alberta
Workmen's Compensation Board Rehabilitation Clinic—3(a)	" "
Rehabilitation Centre—Western Society for Rehabilitation—3	Vancouver, B.C.
Shaughnessy Hospital (D.V.A.)—3 and 6	" "
Group Approval—five hospitals—7(b)	London, Ontario
Rehabilitation Centre, Workmen's Compensation Board—3(g)	Malton, "
Sunnybrook Hospital (D.V.A.)—3 and 6	Toronto, "
Toronto General Hospital—8	" "
Toronto Western Hospital—3(a)	" "
Hôpital Pasteur—7(c)	Montreal, Quebec
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—3 and 6	" "
Rehabilitation Centre—7(c)	" "
University Hospital—8	Saskatoon, Sask.

For numerical references, see pages 577 and 578.

SPECIALITY OF PLASTIC SURGERY

Hospital for Sick Children—3(d)	Toronto, Ontario
St. Michael's Hospital—3(a)	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—3(a)	" "
Hôpital Notre-Dame—8	Montreal, Quebec
Hôpital Sainte-Justine—3(g)	" "
Hôtel-Dieu de Montréal—3(a)	" "
Montreal Children's Hospital—3(g)	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Victoria Hospital—8	" "

SPECIALTY OF PSYCHIATRY

The policy of the College relative to granting approval to hospitals for advanced graduate training in psychiatry has been revised and approval will now be given to hospitals only when their training program is organized under university or similar auspices. The deans of medical schools across Canada are aware of these requirements and have been asked to assist psychiatric hospitals and clinics in reorganizing their training programs.

The four-year period of training in psychiatry is being organized as an integrated whole by those persons responsible for psychiatry in the various provinces. No one hospital or institution will serve the objective, but rather a series of appointments in a variety of hospitals, clinics and other settings will be required.

Enquiries regarding the status of a specific hospital should be directed to the College Office, but in the interim period while training programs are being arranged, the approval to the following hospitals remains unchanged:

Provincial Guidance Clinic—3(k)	Edmonton, Alberta
University of Alberta Hospital—4	" "
Provincial Mental Hospital—3	Ponoka, "
Provincial Mental Hospital—3	Essondale, B.C.
Shaughnessy Hospital (D.V.A.)—5 and 6	Vancouver, "
Vancouver General Hospital—3(a)	" "
Hospital for Mental Diseases—3	Brandon, Manitoba
Hospital for Mental Diseases—3	Selkirk, "
Deer Lodge Hospital (D.V.A.)—5 and 6	Winnipeg, "
Winnipeg Psychopathic Hospital—8	" "
Provincial Hospital—3(k)	Campbellton, N.B.
Provincial Hospital—3	Saint John (Lancaster), N.B.
Hospital for Mental and Nervous Diseases—3	St. John's, Nfld.
Nova Scotia Hospital—3	Dartmouth, N.S.
Camp Hill Hospital (D.V.A.)—3 and 6	Halifax, "
Children's Hospital—3	" "
Victoria General Hospital—3	" "
Hotel-Dieu Hospital—7(f)	Kingston, Ontario
Kingston General Hospital—7(f)	" "
Ontario Hospital—3	Hamilton, Ontario
Ontario Hospital—3	Kingston, "
Ontario Hospital—3	London, "
St. Joseph's Hospital—3	" "
Victoria Hospital—3	" "
Westminster Hospital (D.V.A.)—5 and 6	" "
Ottawa General Hospital—7(e)	Ottawa, "
Ontario Hospital—3(g)	St. Thomas, "
Hospital for Sick Children—3(g)	Toronto, "
Ontario Hospital, 999 Queen St. W.—3(k)	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto Psychiatric Hospital—8	" "
Hôpital St-Michel-Archange et la Clinique Roy-Rousseau—8	Mastaï, Quebec
Hôpital Maisonneuve—3(a)	Montreal, Quebec
Hôpital Notre-Dame—3	" "
Hôpital St-Jean-de-Dieu—3(k)	" "
Hôpital Sainte-Justine—3(g)	" "
Hôtel-Dieu de Montréal—8	" "
Institut Albert Prévost—3	" "
Jewish General Hospital—3(k)	" "

Montreal Children's Hospital—3(g)	Montreal, Quebec
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Victoria Hospital—8	" "
Ste. Anne's Hospital (D.V.A.)—5 and 6	Ste.-Anne-de-Bellevue, Quebec
Verdun Protestant Hospital—3	Verdun, Quebec
Saskatchewan Hospital—3(j)	North Battleford, Sask.
Regina General Hospital—3(g)	Regina, "
University Hospital—8	Saskatoon, "
Saskatchewan Hospital—3(j)	Weyburn, "

SPECIALTY OF DIAGNOSTIC RADIOLOGY

Calgary General Hospital—3	Calgary, Alberta
University of Alberta Hospital—8	Edmonton, "
Royal Alexandra Hospital—3(d)	" "
Shaughnessy Hospital—(D.V.A.)—5 and 6	Vancouver, B.C.
St. Paul's Hospital—4(e)	" "
Vancouver General Hospital—8	" "
Royal Jubilee Hospital—3	Victoria, "
St. Boniface Hospital—4	St. Boniface, Man.
Deer Lodge Hospital (D.V.A.)—5 and 6	Winnipeg, "
Winnipeg General Hospital—8	" "
Moncton General Hospital—3(e)	Moncton, N.B.
Saint John General Hospital—4(d)	Saint John, "
St. John's General Hospital—3(c)	St. John's, Nfld.
Group Approval—four hospitals—7(a)	Halifax, Nova Scotia
Hamilton General Hospitals—3	Hamilton, Ontario
Hotel-Dieu Hospital—3	Kingston, "
Kingston General Hospital—8	" "
Kingston Military Hospital—3(k)	" (Barriefield) Ont.
St. Joseph's Hospital—4	London, "
Victoria Hospital—8	" "
Westminster Hospital (D.V.A.)—3 and 6	" "
Ottawa Civic Hospital—8	Ottawa, "
Hospital for Sick Children—3(g)	Toronto, "
New Mount Sinai Hospital—3(g)	" "
St. Joseph's Hospital—3	" "
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto East General and Orthopædic Hospital—3	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—8	" "
Hôtel-Dieu St-Vallier—4	Chicoutimi, Quebec
Hôpital Maisonneuve—3	Montreal, "
Hôpital Notre-Dame—8	" "
Hôpital Saint-Luc—4(e)	" "
Hôpital Sainte-Justine—3(g)	" "
Hôpital Ste-Jeanne-d'Arc—3(a)	" "
Hôtel-Dieu de Montréal—8	" "
Institut du Radium—3	" "
Jewish General Hospital—3(a)	" "
Montreal Children's Hospital—3(g)	" "
Montreal General Hospital—8	" "
Montreal Neurological Institute—3	" "
Queen Elizabeth Hospital—4(d)	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Reddy Memorial Hospital—3	" "
Royal Victoria Hospital—8	" "
St. Mary's Hospital—3	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
Hôpital du Saint-Sacrement—8	" "
Hôpital Ste-Foy (D.V.A.)—3 and 6	" "
Hôpital St-François d'Assise—3	" "
L'Hôtel-Dieu de Québec—8	" "
Postgraduate Course in Radiology under auspices of Laval University, ten hospitals—7(d)	" "
Hôpital Général St-Vincent-de-Paul—3	Sherbrooke, "
Hôpital Général de Verdun—3(a)	Verdun, "
Regina General Hospital—4(d)	Regina, Sask.
Regina Grey Nuns' Hospital—4(d)	" "
St. Paul's Hospital—4(e)	Saskatoon, "
Saskatoon City Hospital—3	" "
University Hospital—8	" "

SPECIALTY OF THERAPEUTIC RADIOLOGY

University of Alberta Hospital—3	Edmonton, Alberta
British Columbia Cancer Institute—8	Vancouver, B.C.
St. Paul's Hospital—4(e)	" "
Royal Jubilee Hospital—4(d)	Victoria, "
St. Boniface Hospital—4	St. Boniface, Man.
Winnipeg General Hospital—8	Winnipeg, "
Saint John General Hospital—3(j)	Saint John, N.B.
Victoria General Hospital—8	Halifax, Nova Scotia
Hamilton General Hospitals—3	Hamilton, Ontario
Kingston General Hospital—8	Kingston, "
Victoria Hospital—8	London, "
Ottawa Civic Hospital (Ottawa Clinic—Ontario Cancer Foundation)—8	Ottawa, "
Ottawa General Hospital (General Hospital Division of the Ottawa Clinic of the Ontario Cancer Foundation)—3	" "
St. Michael's Hospital—3	Toronto, "
Toronto General Hospital—8	" "
Toronto Western Hospital—3	" "
Metropolitan General Hospital—4(d) (Windsor Clinic, Ontario Cancer Foundation)	Windsor, "
Hôpital Notre-Dame—8	Montreal, Quebec
Hôpital Saint-Luc—3	" "
Hôpital Sainte-Jeanne-d'Arc—3(a)	" "
Hôtel-Dieu de Montréal—8	" "
Institut du Radium—8	" "
Jewish General Hospital—3(a)	" "
Montreal General Hospital—8	" "
Queen Elizabeth Hospital—3	" "
Royal Victoria Hospital—8	" "
Hôpital de l'Enfant-Jésus—8	Quebec "
Hôpital du Saint-Sacrement—8	" "
Hôpital St-François-d'Assise—3	" "
L'Hôtel-Dieu de Québec—8	" "
Postgraduate Course in Radiology under auspices of Laval University, ten hospitals—7(d)	" "
Regina Grey Nuns' Hospital—4(d) (Allan Blair Memorial Clinic)	Regina, "
Saskatoon Cancer Clinic—8 (Situated in University Hospital)	Saskatoon, "
St. Paul's Hospital—4(e)	" "

SPECIALTY OF SURGERY (GENERAL SURGERY)

Colonel Belcher Hospital (D.V.A.)—3 and 6	Calgary, Alberta
Edmonton General Hospital—3	Edmonton, "
Misericordia Hospital—3(a)	" "
Royal Alexandra Hospital—4(k)	" "
University of Alberta Hospital—8	" "
Crease Clinic of Psychological Medicine—3(g)	Essondale, B.C.
Shaughnessy Hospital (D.V.A.)—5 and 6	Vancouver, "
St. Paul's General Hospital—3(f)	" "
Vancouver General Hospital—8	" "
Victoria Veterans' Hospital (D.V.A.)—3 and 6	Victoria, "
St. Boniface Hospital—4	St. Boniface, Man.
Children's Hospital—3(h)	Winnipeg, "
Deer Lodge Hospital (D.V.A.)—5 and 6	" "
Winnipeg General Hospital—5	" "
Lancaster Hospital (D.V.A.)—3 and 6	Saint John, N.B.
Saint John General Hospital—3(j)	" " "
St. John's General Hospital—3(d)	St. John's, Nfld.
Camp Hill Hospital (D.V.A.)—5 and 6	Halifax, N.S.
Victoria General Hospital—8	" "
Hamilton General Hospitals—4(n)	Hamilton, Ontario
Hotel-Dieu Hospital—3(a)	Kingston, "
Kingston General Hospital—8	" "
Kingston Military Hospital—3(g)	" (Barriefield) Ont.

For numerical references, see pages 577 and 578.

St. Joseph's Hospital—3(a)	London, Ontario
Victoria Hospital—8	" "
Westminster Hospital (D.V.A.)—5 and 6	" "
Ottawa Civic Hospital—3	Ottawa, "
Ottawa General Hospital—5(b)	" "
Hospital for Sick Children—3(h)	Toronto, "
New Mount Sinai Hospital—3(a)	" "
St. Joseph's Hospital—3	" "
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto East General and Orthopædic Hospital—3	" "
Toronto General Hospital—8	" "
Toronto Military Hospital—3(g)	" "
Toronto Western Hospital—8	" "
Women's College Hospital—3(p)	" "
Toronto Hospital for Tuberculosis—2(d)	Weston, "
Hôtel-Dieu St-Vallier—4	Chicoutimi, Quebec
Hôpital Maisonneuve—8	Montreal, "
Hôpital Notre-Dame—8	" "
Hôpital Saint-Luc—4	" "
Hôpital Sainte-Justine—3(h)	" "
Hôtel-Dieu de Montréal—8	" "
Jewish General Hospital—4(f)	" "
Montreal Children's Hospital—3(h)	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Reddy Memorial Hospital—3(a)	" "
Royal Victoria Hospital—8	" "
St. Mary's Hospital—3(d)	" "
Hôpital de l'Enfant-Jésus—8	Quebec, "
Hôpital du Saint-Sacrement—8	" "
Hôpital Ste-Foy (D.V.A.)—5 and 6	" "
Hôpital St-François-d'Assise—3	" "
L'Hôtel-Dieu de Québec—8	" "
Hôpital Général St-Vincent-de-Paul—3(e)	Sherbrooke, "
Hôpital Général de Verdun—4(a)	Verdun, "
Regina General Hospital—3(k)	Regina, Sask.
St. Paul's Hospital—3(a)	Saskatoon, Sask.
Saskatoon City Hospital—3(o)	" "
University Hospital—8	" "

SPECIALTY OF THORACIC SURGERY

Charles Camsell Indian Hospital—3(g)	Edmonton, "
Vancouver General Hospital—8	Vancouver, B.C.
Vancouver Unit, Division of Tuberculosis Control—3(g)	" "
Manitoba Sanatorium—3(g)	Ninette, Manitoba
St. Boniface Sanatorium—3(g)	St. Vital, "
Nova Scotia Sanatorium—3(g)	Kentville, N.S.
Mountain Sanatorium—3(g)	Hamilton, Ontario
Kingston General Hospital—3(a)	Kingston, "
Beck Memorial Sanatorium—3(g)	London, "
Toronto General Hospital—8	Toronto, "
Toronto Hospital for Tuberculosis—3	Weston, "
Hôpital du Sacré-Cœur—3(g)	Montreal, Quebec
Hôpital Notre-Dame—3(a)	" "
Hôpital Sainte-Justine—3(g)	" "
Hôtel-Dieu de Montréal—3(a)	" "
Institut de Cardiologie de Montréal—3(g)	" "
Montreal Children's Hospital—2(d)	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Edward Laurentian Hospital—3 (Montreal and Laurentian Divisions)	" "
Royal Victoria Hospital—8	" "
L'Hôpital Laval—3(g)	Quebec, "
University Hospital—8	Saskatoon, Sask.

SPECIALTY OF UROLOGY

University of Alberta Hospital—8	Edmonton, Alberta
Shaughnessy Hospital (D.V.A.)—5 and 6	Vancouver, B.C.
Vancouver General Hospital—8	" "
Deer Lodge Hospital (D.V.A.)—5 and 6	Winnipeg, Manitoba
Winnipeg General Hospital—8	" "
Saint John General Hospital—3(j)	Saint John, N.B.
Camp Hill Hospital (D.V.A.)—5 and 6	Halifax, Nova Scotia
Victoria General Hospital—8	" " "
Hamilton General Hospitals—3(q)	Hamilton, Ontario
Kingston General Hospital—3	Kingston, "
Ottawa Civic Hospital—3	Ottawa, "
Hospital for Sick Children—2(a)	Toronto, "
St. Joseph's Hospital—3	" "
St. Michael's Hospital—8	" "
Sunnybrook Hospital (D.V.A.)—5 and 6	" "
Toronto General Hospital—8	" "
Toronto Western Hospital—8	" "
Hôpital Notre-Dame—8	Montreal, Quebec
Hôtel-Dieu de Montréal—8	" "
Jewish General Hospital—3(a)	" "
Montreal Children's Hospital—2(d)	" "
Montreal General Hospital—8	" "
Queen Mary Veterans' Hospital (D.V.A.)—5 and 6	" "
Royal Victoria Hospital—8	" "
L'Hôtel-Dieu de Québec—3	Quebec, "
University Hospital—8	Saskatoon, Sask.

NUMERICAL REFERENCES

1. Part-time training—A maximum period of four months' training in which the remainder of the year is spent in resident training in an institution with approval for at least one year in the specialty concerned.
2. Six months' training.
   - (a) Six months' training—limited to one trainee.
   - (b) Six months' training—training is integrated as part of a university scheme of postgraduate instruction and carries the approval of the Head of the University Department concerned.
   - (c) As 2(b) but training limited to one trainee.
   - (d) Six months' training—not to be substituted for six months of the required two years of resident training in the specialty concerned in an approved hospital.
   - (e) Six months' training—provisional. (College Office will provide details on request.)
3. One year's training.
   - (a) One year's training—limited to one trainee.
   - (b) One year's training—limited to one trainee, provided the second year of the specialty training is taken in a university centre.
   - (c) One year's training—limited to one trainee—not to be substituted for one of the two required years of resident training in the specialty concerned in an approved hospital.
   - (d) One year's training—limited to two trainees.
   - (e) One year's training—limited to two trainees; not to be substituted for one of the two required years of resident training in the specialty concerned in an approved hospital.
   - (f) One year's training—limited to three trainees.
   - (g) One year's training—not to be substituted for one of the two required years of resident training in the specialty concerned in an approved hospital.
   - (h) One year's training, only six months of which may apply to the two years of required residency training in the specialty.
   - (i) One year's training, provided the second required year in the specialty is spent in a university teaching hospital.
   - (j) One year's training. For Certification, one further year of training is approved; this second year not to be substituted for one of the two required years of resident training in the specialty concerned in an approved hospital.
   - (k) One year's training—training is integrated as part of a university scheme of postgraduate instruction and carries the approval of the Head of the University Department concerned.
   - (k)* One year's training—limited to one trainee—training is integrated as part of a university scheme of postgraduate instruction and carries the approval of the Head of the University Department concerned.
   - (l) One year's training—Clinical Pathology only.

(m) One year's training—Pathological Anatomy or Pathological Anatomy and Clinical Pathology.

(n) One year's training—Combined training in Pathological Anatomy and Clinical Pathology.

(o) One year's training—limited to one trainee. Training is integrated as part of a university scheme of postgraduate instruction and carries the approval of the Head of the University Department concerned.

(p) One year's training—limited to one trainee—not to be substituted for one of the two required years of resident training in the specialty concerned in an approved hospital. The year will be accepted as the necessary year of resident training in General Surgery for the Fellowship examination in Surgery as modified for Obstetrics and Gynæcology, and the Certification examination in Obstetrics and Gynæcology.

(q) One year's training—not more than six months of which can be spent in the integrated general surgical training program.

4. Two years' training.

(a) Two years' training—limited to one trainee in each year.

(b) Two years' training—limited to two trainees in each year.

(c) Two years' training—limited to three trainees in each year.

(d) Two years' training on condition that trainee will take an additional year of training in the specialty in an institution where training in the basic sciences may be obtained.

(e) Two years' training—in a program of three years' training in Diagnostic and/or Therapeutic Radiology the extra year of training must be spent at another approved institution. In a program of two years in each of the subjects for double qualification one year must be spent in each of the subjects at another approved institution preferably at a university department.

(f) Two years' training—limited to a total of four trainees at any one time.

(g) Two years' training—for a total of three trainees at any one time.

(h) Two years' training—training is integrated as part of a university scheme of postgraduate instruction and carries the approval of the Head of the University Department concerned.

(i) Two years' training—limited to one trainee in each year. Training is integrated as part of a university scheme of postgraduate instruction and carries the approval of the Head of the University Department concerned.

(j) Two years' training—limited to two trainees in each year. Training is integrated as part of a university scheme of postgraduate instruction and carries the approval of the Head of the University Department concerned.

(k) Two years' training—optional number of trainees in the first year and one trainee in the second year.

(l) Two years' training for one trainee only.

(m) Two years' training for two trainees, one senior trainee and one junior trainee.

(n) Two years' training, the second year of which cannot be substituted for one of the two minimum required years in the specialty concerned in an approved hospital.

(o) Two years' training—two trainees in the first year and one in the second year.

(p) Two years' training in Pathology—one year Pathological Anatomy, one year Clinical Pathology.

(q) Two years' training in Pathological Anatomy.

5. Three years' training.

(a) Three years' training—limited to one trainee in each year.

(b) Three years' training—limited to two trainees in each year.

(c) Three years' training—limited to two trainees each in the first and the second year, and one trainee in the third year—a total of five trainees at one time.

(d) Three years' training—one year Clinical Pathology, two years Pathological Anatomy.

6. Approval of training in Department of Veterans Affairs hospitals.

In D.V.A. hospitals there are no children, few and in some instances no female patients, and a lack of certain types of disease among male patients. For these reasons a D.V.A. hospital cannot provide a complete course of advanced graduate training in any specialty. D.V.A. hospitals are approved for advanced graduate training in medical and surgical specialties as specified for each hospital. While the approval of a D.V.A. hospital may be for two or three years of training, candidates who spend more than one year in resident training at a D.V.A. hospital are reminded *that one of the two minimum required years of resident training in the specialty concerned must be spent in an approved civilian hospital.*

7. Group approval.

(a) Group Approval — Diagnostic Radiology — Halifax, Nova Scotia.

Camp Hill Hospital, Children's Hospital, Halifax Infirmary and Halifax Tuberculosis Hospital—for full training in Diagnostic Radiology provided training in basic science is taken concurrently at Dalhousie University.

(b) Group Approval—Physical Medicine and Rehabilitation—London, Ontario.

Westminster Hospital, Victoria Hospital, War Memorial Children's Hospital—Polio Centre, St. Mary's Hospital and Woodeden Crippled Children's Centre, London—one year's training in Physical Medicine and Rehabilitation, provided that time spent at Westminster Hospital is restricted to three or four months.

(e) Group Approval—Physical Medicine and Rehabilitation—Montreal, Quebec.

Hôpital Pasteur and Rehabilitation Centre, Montreal—two years' training in Physical Medicine and Rehabilitation—limited to two trainees in each year—on condition that trainees obtain some additional training outside of these two institutions.

(d) Postgraduate Course in Radiology under auspices of Laval University, Quebec, Quebec.

Course to include radiological facilities of the following ten hospitals: Hôpital Ste-Foy, Hôtel-Dieu de Québec, Hôpital du St-Sacrement, Hôpital de l'Enfant-Jésus, Hôpital St-Michel-Archange (Mastaï), Hôpital Laval (Ste-Foy), Hôpital St-François-d'Assise, Jeffery Hale Hospital, Hôtel-Dieu St-Vallier (Chicoutimi) and Hôpital St-Joseph (Trois-Rivières).

Conditions: Each trainee must be registered under the training scheme of Laval University. Length of time in larger hospitals not to exceed one year; in the small hospitals not more than six months. Each trainee must spend one year in another approved centre in Canada or abroad in his particular specialty. Those training in both Diagnostic Radiology and Therapeutic Radiology must spend one year in each specialty at another recognized centre.

(e) Psychiatric Training Program under auspices of University of Ottawa, Ottawa, Ontario—two years' approval; one year at Ottawa General Hospital and one year at other centres as arranged by the Professor of Psychiatry.

(f) Psychiatric Training Program under auspices of Queen's University, Kingston, Ontario—two years' approval for training arranged by the Professor of Psychiatry at the following hospitals: Kingston General Hospital; Hotel-Dieu Hospital, Kingston; Ontario Hospital, Kingston; Mental Hygiene Clinic, Kingston, and Children's Hospital associated with Kingston Sunnyside Home for Disturbed Children.

8. Approved for full training.

(a) Approved for full training—limited to two trainees.

MEDICAL MEETINGS

CANADIAN ACADEMY OF ALLERGY

The Canadian Academy of Allergy will hold their annual meeting in Toronto, at the Royal York Hotel, on Friday, May 29, during the sessions of the Ontario Medical Association.

The officers of the Academy are: President, Dr. J. D. L. FitzGerald, Toronto; Vice-President, Dr. C. H. A. Walton, Winnipeg; Secretary-Treasurer, Dr. Jacques Léger, 1681 Parc Lafontaine, Montreal. Members of the Council are: Dr. T. M. Sieniewicz, Halifax; Dr. J. H. Toogood, London; Dr. C. Collins-Williams, Toronto; Dr. T. Aaron, Edmonton, and Dr. H. S. Mitchell, Montreal.

VANCOUVER MEDICAL ASSOCIATION SUMMER SCHOOL

The Vancouver Medical Association will sponsor a Summer School at the Stanley Park Pavilion, Vancouver, from June 1 to 5, 1959. The guest speakers will include: Dr. L. G. Bell, Dean, Faculty of Medicine, University of Manitoba; Professor Hugh McLaren, Department of Obstetrics and Gynæcology, Queen Elizabeth Hospital, Birmingham, England; Dr. George T. Pack, Associate Professor of Clinical Surgery, Cornell University School of Medicine; Dr. Donald R. Smith, Clinical Professor of Urology, University of California; and Dr. Theodore E. Walsh, Professor of Otolaryngology, Washington University, St. Louis, Mo. Further information from: Dr. Frank Wilson, Secretary, Summer School Committee, Vancouver Medical Association, Academy of Medicine Building, 1807 West 10th Avenue, Vancouver 9, B.C.

THE SOCIETY OF OBSTETRICIANS AND GYNÆCOLOGISTS OF CANADA

The Annual Meeting of the Society of Obstetricians and Gynæcologists of Canada will be held at Mont Tremblant Lodge, Mont-Tremblant, Quebec, September 10-13, 1959. The Secretary of the Society is Dr. F. P. McInnis, 280 Bloor Street West, Toronto 5, Ont.

LETTERS TO THE EDITOR

VESICO-VAGINAL FISTULÆ

To the Editor:

In a recent issue of the *Canad. M. A. J.* (79: 801, 1958) I read with much interest the article on repair of vesico-vaginal fistula.

By a coincidence, at that time I was describing to our local staff at the Cornwall General Hospital, steps I had taken to treat one of these fistulæ. Because of the general interest and suggestions of a few of my confreres, I feel compelled to present these simple facts in the hope that they may prove of value in other cases. I realize that one case is not any basis for a conclusion, but because actual descriptions of any method of bladder drainage do not exist to my knowledge, I feel that these suggestions are worth consideration.

Mrs. X, aged 45, was operated on by me, a total hysterectomy being carried out. She seemed well postoperatively except for a slight temperature, and then on her 10th postoperative day she reported urinary incontinence. Vaginal examination was immediately carried out and confirmed my fears—she had a vesico-vaginal fistula actually pouring urine into the vaginal vault. Antibiotics and "continuous bladder drainage" are the stand-by in such cases, but hope was small for spontaneous cure.

Although I have never had much regard for a Foley catheter, it does at least drain the urine, and one was therefore inserted; a long tube was attached, going over the edge of the bed into a bottle on the floor. Then began from day to day a series of experiments in posturing the patient—on her side, on her back, on her abdomen, with pillows here and there, but all to no avail.

Ultimately, by a series of trials and some considerable thought, over a period of three weeks, we arrived at a situation where the patient was dry and comfortable. First, we needed a split mattress; because this was not available in our hospital, a hole was cut in an old mattress immediately below the perineum of the patient, and the Foley catheter was allowed to drain into a bottle there. This arrangement helped, but on occasion I came in and found the drainage tube in the bottom of the bottle covered with urine, and the patient again soaked. Our second important step was in eliminating the long tube, so that there could be no back pressure whatever at any time. Thus our catheter, or its attachment, was allowed to hang freely in the bottle at all times without being immersed in urine. The patient was somewhat drier now but this was not completely satisfactory.

The third, and most important, step was to eliminate the Foley catheter. If one blows up the bulb of this instrument, it is immediately evident that urine must be displaced throughout the whole trigone of the bladder area (where most of these injuries are), and the lower fundus itself before the catheter will drain. I therefore tried to obtain a mushroom or butterfly (Malecot) catheter, but found these obsolete now; the only ones we had in our hospital were not in fit shape to be used. New ones were ordered and I finally obtained a new Malecot No. 24 and placed it in the bladder. This catheter will keep a bladder drier than any other catheter we have available. All the above procedures had taken approximately three weeks of experimentation.

Several days later, I was gratified to see that the patient was reasonably dry and her morale much improved. After ten days to two weeks she was absolutely dry, but the catheter was left in place for another two weeks. The patient was seen a week ago and has been dry for three months.

To sum up, I think I was very fortunate but would like to suggest the following in the presence of any early vesico-vaginal fistula:

1. Never use a Foley catheter. Use a Malecot No. 24-26 and allow it to rest close to the external urethral orifice (the most dependent bladder area), by counter-traction with extra tubing as needed.

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2. Do not attempt to run a tube along and over the bed. Use a split mattress, or cut a hole in an old mattress, and allow the urine to drop freely into a bottle placed under the bed and directly under the perineum.

3. Do not allow the draining catheter in the bottle to hang in the urine at any time, as an air lock or back pressure will foil you again.

4. Observe the drainage apparatus yourself daily. Do not leave it in the hands of a nurse or intern.

As a general measure, I used Azo-Gantrisin as an antibiotic, and its colour on the linen gave me a guide as to how I was succeeding. I also gave vitamin C, 500 mg. daily, and insulin, 5 units 3 times a day, on general principles.

Success in this case does not, I presume, indicate an answer to this distressing problem, but healing of this very active fistula has given me confidence enough to pass along the above suggestions.

H. E. D. BATEMAN, M.D.

217 Second Street East,
Cornwall, Ont.,
February 28, 1959.

ITINERANT SURGERY

To the Editor:

On November 29, 1958, a meeting was held at C.M.A. House in Toronto of representatives of medical organizations to discuss matters of medical ethics. This meeting was called on the invitation of The Royal College of Physicians and Surgeons of Canada.

The Royal College representatives reported on this meeting to the Council of The Royal College at the meeting of the Council held January 21, 1959. Arising out of the discussion, a statement relating to itinerant surgery and medical ethics in general was approved by the Council. The Council directed me to transmit to you this statement and indicate that the Council would appreciate your co-operation in publishing the statement in the *Canadian Medical Association Journal* and in the *Canadian Journal of Surgery*.

"In general The Royal College of Physicians and Surgeons disapproves of itinerant surgery. It is permissible only when there is need of skill in the art of surgery not possessed by those practising in the local area. The surgeon is morally and perhaps legally responsible for the diagnosis of the condition for which he operates, and for the postoperative care of the patient. If this principle is violated in the practice of itinerant surgery, it is difficult to insist on its observance under other circumstances.

"When the welfare of the patient makes necessary the employment of a visiting surgeon rather than one resident in the area, the arrangement regarding fees should be such that there is no improper financial inducement to the referring doctor or the surgeon.

"The Council of The Royal College declares its intention to continue its activities against unethical professional practices. When the College receives information which seems to make it necessary to investigate the professional practices of a Fellow or Certificated Specialist, it proposes to do so. Should the allegations of unethical conduct be substantiated, the College intends to take action under Article VII of its By-Laws. Should the name of the Fellow or the Certificated Specialist be removed from the College Register, notification of such action will be sent to the local provincial licensing body and to the Director of the Canadian Council on Hospital Accreditation.

"The Council of The Royal College desires to express its appreciation for the support it has received from the Canadian Medical Association, the College of General Practice of Canada and the medical organizations in the province of Ontario. Council is desirous that further discussions may make possible the solution of these ethical problems which concern the profession throughout the country."

The Royal College of Physicians and Surgeons of Canada,
150 Metcalfe Street,
Ottawa 4, Ontario,
February 28, 1959.

JAMES H. GRAHAM,
F.R.C.P.[C], Secretary

DETERMINATION DES STADES DU CYCLE SEXUEL PAR UNE METHODE COLORIMETRIQUE*

Lettre à la Rédaction:

La coloration des radicaux sulfhydrilés des scléroprotéines des cellules cornifiées du vagin recueillies, par accolement, sur un papier à chromatographie, nous a permis de suivre le cycle sexuel de la ratte, de la lapine et de la femme, et d'en déterminer le moment.

Chez l'animal, cette méthode nous a montré la corrélation stricte qui existe entre la coloration complète de la surface empreinte du vagin, la cornification subtotale des cellules épithéliales et l'imminence de l'ovulation.

Chez la femme, les expériences préliminaires, faites à date, ont montré que la méthode colorimétrique peut mettre en évidence: (1) la normalité du cycle, (2) son absence et (3) son stade.

Cette méthode comporte de plus les avantages techniques suivants:

1.-L'innocuité: simple accolement du papier sur la muqueuse vaginale;

2.-La spécificité: les cellules cornifiées doivent être présentes pour l'obtention d'une réaction positive;

3.-La rapidité: la réaction est instantanée.

SUMMARY

A technique is presented which permits determination of the presence or absence, and of the period of the œstrus cycle in the rat, the rabbit and the woman.

It consists in the establishment of the well-known correlation between cornification and ovulation by means of a coloration of sulfur groups in scleroproteins.

DIDIER DUFOUR,†
CLAUDE MAINGUY (sur invitation),
et JEAN DE ST-VICTOR,‡
Québec, Qué.

*Travail subventionné par un octroi du Conseil des Recherches de la Province de Québec.

†Département de Biochimie, Faculté de Médecine, Université Laval, Québec. Directeur: Docteur Rosaire Gingras.

‡Département de Gynécologie, Hôpital du St-Sacrement, Québec. Surintendant: Docteur Renaud Lemieux.

THE TITLE "DOCTOR"

To the Editor:

This is not an attempt to re-open the discussion for which you kindly allowed me space previously in your Journal (80: 232, 1959).

I wish to send the following along to you, however, as it seems to deal with a most pertinent aspect of the problem. It is from the scientific papers in summary form of the 114th Annual Meeting of the American Psychiatric Association in 1958.*

"We psychiatrists fail to communicate with other professional personnel with respect to psychotherapy because we use the word differently. We think of psychotherapy as one more medical technique applied to the treatment of illness. The nub of the difficulty is not the word 'treatment' but the word 'illness'. We prefer to believe that all kinds of social and behaviour deviation are sickness, and our nomenclature is so constructed that we can place in the 'illness' category a variety of behaviour deviations like criminal acts, homosexuality, grief over a loss, hostility to an employer, marital discord and so on. By labelling all these deviations as illness, we can argue that efforts to relieve them are 'therapy'. Since the treatment of sickness is a physician's monopoly, we feel hurt when other professional people in the human relations field don't recognize the exclusiveness of our franchise.

"In this diluted concept of illness we stand pretty much alone. The clergyman who successfully solaces a bereaved survivor does not consider himself as practising medicine. Yet that clergyman may effectively 'cure' a depressive reaction. He does this through mental and emotional means—and therefore he has cured a depression through psychologic means—which is surely psychotherapy. An unhappy employee may be simply expressing unconscious hatred of a father when he is hostile to the boss. If the vocational guide or the personnel officer sees this and makes a change in his job placement which relieves the employee's anxiety, then he, too, is practising psychotherapy. That is, he is relieving anxiety through mental means. But no one except a psychiatrist says that the employee was 'sick'.

"Thus our failure to communicate with others is due to our specialized use of the word illness. Even our medical brethren will not support us in this, which is one reason why we have been unable to get laws passed that would give physicians a monopoly of psychotherapy. Even the mystique of psychotherapy, its irrational or 'faith' element, comes to us not through the healing sciences but through the 'priest' ancestry of the physician and, historically at least, belongs more to the priest than to the medical scientist.

"Another source of semantic confusion is the word 'supervise'. We think of the non-physician doing psychotherapy as a technician or a surgeon supervises a surgical nurse. Actually, the social worker, the psychologist or the pastoral counsellor is an independent and mature professional person and the analogy is not to the nurse or technician but to the dentist who is not supervised by the M.D. Even if the psychiatrist insists that only he can supervise psychotherapy, he is left with the practical difficulty that he cannot supervise during the interview and it is too late to supervise after it.

"These are only words. But words are the tools of psychotherapy. Let us keep them sharp."

It was to this aspect of the problem that my letter was meant to be directed and the reason why I stated that doctors cannot lay sole claim to the body, behaviour, complaints and aspirations of the population at large.

EDWARD D. LEVINSON, M.D.

Suite 206,
5757 Decelles Ave.,
Montreal 26, Que.,
February 25, 1959.

**The Semantics of Psychotherapy*—Henry A. Davidson, M.D., Superintendent, Essex County Hospital, Cedar Grove, New Jersey.

HOLIDAY EXCHANGES WITH FINLAND

To the Editor:

Finnish physicians are very interested in forming friendly relationships with foreign colleagues and their families. Similarly, colleagues abroad are interested in Finnish doctors and our northern country.

Travelling abroad is often a condition for the friendship mentioned above. As a doctor usually comes in rather superficial contact with his colleagues if he is a tourist and is taken care of by a travel bureau only, the idea of a *holiday exchange between doctors' families* in your country and ours has been discussed among Finnish doctors.

The matter could perhaps be arranged so that the families could get in touch with each other through the assistance of their national medical associations. Afterwards, they themselves could take care of the practical arrangements for the journey.

On behalf of the Board of the Finnish Medical Association,

URPO SIIRALA, Chairman
VAINO PENSALA, Executive Manager

Ullanlinnankatu 1,
Helsinki, Finland,
January 3, 1959.

THE LONDON LETTER

(From our own correspondent)

REPORTS GALORE

Reports and committees may not be the prerogative of the Welfare State, but the unfortunate doctor who practises in a National Health Service cannot be blamed if he occasionally wonders whether the old dictum, that it is deeds, not words, that count, has been buried for good and for all. If one could only persuade oneself that the efficiency of a service is in direct proportion to the amount written about it, the last month would represent a halcyon period in the history of medical practice in these Islands, for within this period five separate reports have appeared on various branches of the National Health Service. Considerations of space will allow reference to only four of these.

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THE MATERNITY SERVICES IN ENGLAND

Two of these deal with the maternity services – one for England and Wales, and one for Scotland. The former devotes considerable attention to the relative merits of confinements at home and in hospital, and the conclusion is reached that "the advantages of home confinement for the apparently normal case probably outweigh the very slight risk of unforeseen complications". It is therefore recommended that an efficient domiciliary maternity service should be maintained. At the same time there should be an extension of the hospital maternity services to allow of an average of 70% institutional confinements. At the moment the proportion of such confinements ranges from 33 to 100% in different regions, the average for the whole country being 64.6%. Yet another blow is struck at general practice, as the view is expressed that under present-day conditions the practice of obstetrics requires the exercise of special skill beyond the normal competence of the general practitioner, and a degree of experience the average family doctor is unlikely to be able to maintain. A tightening up is therefore recommended of the conditions for admission to, and retention on, the obstetric list of general practioner obstetricians.

Since the introduction of the National Health Service, there has been a special category of general practitioner obstetricians who could provide maternity medical services for any patient who applied. A general practitioner who was not on this obstetric list could only provide such services for patients on his own list, but he was under no obligation to do so. If he did, he was paid an additional fee, but a smaller one than a general practitioner obstetrician. The new report does not suggest that a family doctor who is not on the obstetric list should be prohibited from looking after his pregnant patients, but, to discourage this practice, it recommends that he should receive no additional fee if he should do so.

THE MATERNITY SERVICES IN SCOTLAND

The outstanding feature of the report on the maternity services in Scotland is the recommendation that Scotland should follow the example of England and Wales and establish a list of general practitioner obstetricians. Hitherto, admission to the list of general practitioners offering maternity services has been unrestricted in Scotland. This new recommendation was opposed by both the College of General Practitioners and the British Medical Association on the grounds that the family doctor should be in a position to undertake obstetrics for all his patients who wished him to do so, and that this is impossible with an obstetric list. In actual practice the new recommendation may well make little difference, as the only criterion for admission to the list is to have held a six months' resident appointment in an obstetric unit, whilst for retention on the list the only condition is to have taken a refresher course at intervals of not more than five years.

CHILDREN IN HOSPITAL

The third report deals with a subject which was mentioned in last month's letter – children in hospital. On the whole the recommendations are very much in line with those of the British Pædiatric Association which were summarized last month. Children should not be admitted to hospital if this can possibly be avoided, and special nursing facilities for looking after children at home should be extended. If a child has to be admitted to hospital, however, everything must be done to ensure that he be treated as a child, and not as a miniature adult. The most important condition is that the continuity of his life should be maintained, and this can best be done by allowing his parents to visit him when it suits them – not when it suits the hospital staff. On the question of admitting the mother with her child, the report adopts a reasonably intermediate position between the two extreme views– that she should never be admitted, and that she should always be admitted. It is considered that there is much to be said for admitting the mother for the child's first day or two in hospital in the case of the under-fives.

STAPHYLOCOCCAL INFECTION IN HOSPITAL

The fourth report deals with the worrying problem of staphylococcal infection in hospital. One of the recommendations is that, "as part of the problem has developed from the widespread, and possibly indiscriminate, use of antibiotics, clinicians should be prepared to consider certain voluntary restrictions". One of these is "to abandon the widespread use of antibiotics for non-specific prophylaxis".

London, March 1959. WILLIAM A. R. THOMSON

OBITUARIES

DR. JOHN R. L. EEDE, 64, died suddenly at his home in Leamington, Ont., on December 13, 1958. He was born in Leamington on March 28, 1894. After receiving his primary and secondary education in his native town, Dr. Eede graduated from the University of Toronto in 1918. He immediately went overseas with the Medical Corps in World War I. After demobilization in 1920 he commenced practice in Leamington. In 1922 he was appointed Medical Health Officer of Leamington and the township of Mersea, which position he held until his death.

Dr. Eede is survived by his widow and a daughter.

DR. JAMES A. KEY, 77, died in the Colonel Belcher Hospital, Calgary, Alta., on February 2, after a brief illness. Born in Simcoe County, Ont., he graduated from Queen's University, Kingston, in 1916. After graduating, Dr. Key served as a medical officer in the Canadian Army in Quebec. He then moved to Alberta, where he practised in Rowley, Bellevue, Nordegg and Cardston before going to Calgary. During the Korean war, Dr. Key was a civilian doctor at Currie Barracks. He retired in 1954 and was recently given a life membership in the Canadian Medical Association.

Dr. Key is survived by his widow, four daughters and two sons.

DR. JOSEPH KOLBER, 67, died suddenly in Montreal on February 13. A native of that city, he graduated from McGill University in 1912, after which he did

postgraduate work in ophthalmology in Vienna. In addition to his private practice as an ophthalmologist, Dr. Kolber was an associate in charge of the department of ophthalmology at the Jewish General Hospital.

He is survived by his widow and one son.

DR. L.-P. LAPORTE, 56, died on February 14 in Montreal after a long illness. After graduating from Montreal University in 1930, he practised in the northern section of Montreal for 28 years. He had been a vice-president of the Provincial Bureau of Health, Secretary-treasurer of the Federation of the Medical Societies of the province and Vice-president of the College of Physicians and Surgeons of Quebec.

He is survived by his widow, five sons and a daughter.

DR. JOSEPH H. LEE, 52, died on January 16 at the Mountain Sanatorium, Hamilton, Ont., where he was head of the Department of Medicine. He was born in Hamilton, and graduated from the University of Toronto in 1931. A specialist in tuberculosis, Dr. Lee was a fellow of the College of Chest Physicians and of the American College of Physicians. He was also a member of the Canadian Medical Association, the Ontario Medical Association, the Canadian Tuberculosis Association, the American College of Chest Physicians and the British Tuberculosis Association.

Dr. Lee is survived by his widow and two sons.

DR. N.T. MACLAURIN, 78, died at Norwood, Ont., on February 9. He was born in Toronto and graduated from the University of Toronto in 1902. In World War I, as a medical officer for the 48th Highlanders, he served overseas with the No. 4 General Hospital Unit. Dr. Maclaurin was a member of the staff of the University of Toronto, and practised in Toronto for more than 50 years until his retirement in 1954. He was a member of the Canadian Medical Association and the British Medical Association.

Dr. Maclaurin is survived by his daughter.

DR. CHARLES POWELL, 78, died on February 11 at Port Arthur, Ont. A native of Barrie, Ont., Dr. Powell received his medical training at the University of Toronto, where he graduated in 1905. After interning at St. Michael's Hospital, Toronto, he started to practise in Port Arthur. He was a past president of the Thunder Bay Medical Association and in the early 1930s he was appointed District Coroner.

Dr. Powell is survived by his widow, a son, Dr. Evan Powell, and a daughter.

DR. DAVID A. STEELE, 49, died in Vancouver on February 4. He graduated from the University of Toronto in 1934 and did a year's postgraduate work at St. Michael's Hospital, Toronto, before starting to practise in Vancouver in 1935. Dr. Steele was a member of the staff at St. Paul's, St. Vincent's, Mount St. Joseph's and Holy Family Hospitals, and was on the visiting staff of Vancouver General and Grace Hospitals.

He is survived by his widow, four sons and five daughters.

PROVINCIAL NEWS

BRITISH COLUMBIA

The British Columbia government, in the budget speech, delivered by the Hon. W. A. C. Bennett, Premier and Minister of Finance, has made certain promises of interest to the medical world. He has increased the grant to mental hospitals, reduced at the last session. He has somewhat increased the grant to the Alcoholic Foundation; increases have been given to hospitals, and there are certain other items. None of these, however, appears adequate to certain critics of the government. Thus the British Columbia Conservative Association has criticized the lack of provision for chronic hospitals, which have been "so long promised by Health Minister Martin". There is still a large gap here.

The hospital bed shortage is still very severe in many centres of population. We read in the *Victoria Times* that the Royal Jubilee Hospital is gradually being reduced to an emergency centre, for lack of beds for those seeking admission. Operations are being postponed at the last minute; adequate facilities are lacking for the treatment of cancer cases (one-third of the number treated by the British Columbia Cancer Foundation in Vancouver, a city with four times the population of Victoria).

In March the hospital will open a campaign for a building fund, to construct 190-bed wing and erect a concrete blockhouse for cobalt bomb treatment.

The *Victoria Colonist* reports that St. Joseph's Hospital is "jammed" and some 66 patients are on the waiting list — operations have occasionally to be cancelled. The Superintendent, Dr. E. N. Boettcher, has been urging more treatment at home with the use of the Victorian Order of Nurses. This hospital, with 444 beds, is also contemplating a campaign for extension.

The Pacific Coast Surgical Association held its meeting at the Empress Hotel in Victoria, February 16-18. It was largely attended by surgeons from Canada and the United States. Heart surgery and cerebral surgery were prominent among the subjects discussed.

The Hon. Wesley Black, Provincial Secretary, gave a report in the Legislature on the state of the mental health service in British Columbia. The attitude of the Social Credit government towards mental health has been the subject of very severe criticism from many sources, including the medical profession. He deplored this, and brought out some points in his review of these services.

1. Tranquillizers have doubled the discharge rate for mental patients.
2. Of 1465 patients admitted to Crease Clinic in 1957-58, 96% were discharged after an average hospital stay of two months.
3. The American Psychiatric Association study of British Columbia's health services will be under way early in the summer.
4. New centres (Port Coquitlam, Tranquille, Burnaby, etc.) will be reorganized for care of mental patients.

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5. Patient population in Essondale and Colquitz dropped by 137 patients in the nine months ending December 31, 1958.

Dr. Brock Chisholm, speaking at the Annual Meeting of the Canadian Mental Health Association, British Columbia Branch, told the meeting that the world birth rate was a bigger problem than the H bomb. He said that the greatest need in the world today is research in the field of birth control, either by temporary recoverable sterility by surgery or by drugs.

He said that the world's net population increases by 45,000,000 per year or 125,000 a day.

Dr. J. H. Prag, Johannesburg, South Africa, has been appointed Director of Laboratories in the Okanagan Valley. This is in accord with a federal and provincial scheme to improve pathological and diagnostic service in rural areas in the province. The Kelowna General Hospital will be the headquarters of this organization, and Dr. Prag's services will ultimately be available to all hospitals in the Okanagan area.

The death of Dr. David A. Steele of Vancouver, at the early age of 49, marks the loss of a very valuable public servant.

Dr. Steele was one of the founders of the Canadian Foundation for Poliomyelitis and Rehabilitation in 1944. This was done under the auspices of the Vancouver Kinsmen Club, of which he was a member. At first it was the British Columbia Foundation for Polio, but in 1948 developed into the Canadian body, of which he was national president for two years.

The Rotary Club of Vancouver has a long history of service in antituberculosis efforts. These date back to the early part of the century, when Rotary established clinics for the diagnosis and care of tuberculosis—and have persisted to this day.The Rotary Women's Auxiliary shares in this work to a very large extent and this year has contributed $3358 to the work of the Metropolitan Health Committee. This money was chiefly devoted to the assistance of T.B. patients and their families; there has been aid for milk in schools, clothing and bedding, social service, transportation and so on.

The secretary, Miss Neen, gave some figures about tuberculosis in Vancouver. Of 8051 radiographs taken in a congested downtown area, 122 were found to show signs of chest disease; of these 54 were non-tuberculous, but showed other disease.

There were 504 new cases in 1958, to 414 in 1957—showing the need for constant care. The death rate was 3.9 per 100,000 in 1958, as compared with 4.8 in 1957.

Under the sponsorship of the British Columbia Heart Foundation and the Vancouver Heart Association, Dr. C. Walton Lillehei, professor of surgery at the University of Minnesota, well-known for his contribution to the development of the heart-lung machine, spoke at the University of British Columbia on February 21.

Dr. S. Gilbert Blount, junior associate professor of medicine at the University of Minnesota, also spoke.

Dr. Lillehei spoke warmly of the progress made in heart surgery in this province, notably in Vancouver, where the heart-lung machine has been used many times in open heart surgery.

The *Prince George Citizen* has a leader on fluoridation benefits in Prince George, which has been fluoridating its water for a little over two years. Dr. K. I. G. Benson of the Cariboo Health Unit reports that "remarkable results are showing up among youngsters in the 6-8 year old bracket".

The *Prince George Citizen* feels that the few cents per week that fluoridation costs the taxpayer is repaid many times.

The *Victoria Times* writes about the "Mothers' March" which has raised approximately $35,000 in its recent activities. It emphasizes the fact that there were only 13 new cases of poliomyelitis in British Columbia in 1958 and the disease has an incidence of 7 per 100,000. The National Foundation spent 53.5 million dollars. The Heart Foundation, with 5747 cases per 100,000, expended 22.3 million and CARE 3 million.

The leader is entitled "Going in Reverse" and goes on to say, "In a time when frequent demands are being made on public giving, citizens ought to weigh their contributions carefully, and put them where they will do the most good. The heart campaign now in progress, locally and nationally, quite obviously has greater need of funds than polio. Heart disease is the number one killer, and much valuable work is being done in the research field. This research could have used the $35,000 collected by our marching mothers."

Of course, there is another side to the question, and a spokesman for the marching mothers points out that there is great need for rehabilitation and salvage of the wreckage of polio, on which the money is largely spent.

J. H. MACDERMOT

ALBERTA

The Prairie Regional Meeting of the American College of Physicians was held in the Timberline Hotel, Banff, Alberta, on Thursday, January 29. Dr. S. B. Thorson of Calgary made the local arrangements. Papers were presented by various physicians from the prairie provinces, and the evening session was addressed by Dr. Fuller B. Bailey, Regent of the American College of Physicians, from Salt Lake City. The meetings were open to all physicians as well as fellows and associates of the College.

The need for central training schools for radiological technicians in Alberta was pointed up in a recent brief presented to the Minister of Health by the Alberta Society of Radiologists with the approval of the Alberta Division of the Canadian Society of Radiological Technicians. The Department of Health at present runs a training school for laboratory and x-ray technicians in which the students are given three months' training in each technology to fit them for work in the smaller hospitals. The present brief refers to those proceeding towards their diplomas as registered technicians. The proposal is for a central school at which students could receive their didactic training

after which they could return to radiologists' offices and hospitals for practical training. The matter is under consideration by the government.

The three-day postgraduate courses put on by the Alberta Division, C.M.A., and the University of Alberta Faculty of Medicine continue to be popular. Most recent was a course in obstetrics and pædiatrics on February 23, 24 and 25. The staff consisted of local Edmonton clinicians together with Dr. Robert Kinch, professor of obstetrics and gynæcology, University of Western Ontario, and Dr. Harold Medovy, professor of pædiatrics, University of Manitoba. A visitor was Dr. Jean Webb, Chief, Child and Maternal Health Division, Ottawa, who joined the panel on maternal welfare studies.

Control of the Emergency Air Ambulance Service provided by the Alberta Government has been transferred from the Department of Public Welfare to the Department of Health. A special medical advisory committee has been set up to conduct the service. This committee is made up of men from various specialties, many of whom have had considerable experience in this type of work. Special equipment has been set up and a member of the University of Alberta medical staff will accompany the flight crew on any call. Chartered aircraft will be used in order that the equipment may be fitted to the conditions of flight. A charge of $25.00 will be made to the patient or responsible party and the remainder of the bill will be footed by the Department of Health. Unnecessary use of the service will be controlled by the advisory committee.

The Western Regional Group meeting of the National Research Council of Canada, Division of Medical Research, was held at the Banff School of Fine Arts from January 25 to 28. One hundred and forty-five people registered from the four western provinces, while a few were present from the East. This thirteenth annual scientific meeting was sponsored by the National Research Council and the National Cancer Institute. Dr. Ray Farquharson, Vice-President of the National Research Council, represented that body and Dr. R. M. Taylor, Executive Director, the National Cancer Institute. The speaker from the N.R.C. was Dr. Eleanor Venning, Department of Medicine, McGill University, while the guest speaker for the National Cancer Society was Dr. Arthur Ham, Toronto.

The executive of the Western Regional Group is made up of Dr. D. R. Wilson (Alberta), Chairman, and Drs. L. E. Bell (Manitoba), L. Jaques (Saskatchewan), and M. Darrach (British Columbia).

The facilities of the Banff School of Fine Arts are being used more and more for meetings of this type. During the summer the whole of the institution is occupied with its primary work, but during the winter months the activities along that line are restricted and it makes a very satisfactory meeting place for interested groups.

The Committee on Continuing Education of the C.M.A., Alberta Division, and the Faculty of Medicine, University of Alberta, has found that in the various districts teams of speakers have met with enthusiastic response.

Recent teams from the University have been: Dr. H. E. Duggan, Dr. G. L. Wilson and Dr. E. G. Kidd on "Medical joint diseases", and Dr. C. Couves, Dr. J. A. L. Gilbert and Dr. R. A. L. Macbeth on "The metabolic response to trauma and its therapeutic implications".

W. B. PARSONS

SASKATCHEWAN

Since last September, the Regina and District Medical Society, in co-operation with CKCK Television Station of Regina, has been running a series of fortnightly TV presentations. This series, according to all reports, has been a great success and very popular in that area. Public relations of both the profession and the station have benefited. Dr. J. Stevens has been in charge of the Medical Committee, assisted by Dr. N. H. Smith and Dr. M. Finkelstein.

Each program took the form of a twenty-minute panel presentation, when pertinent questions were answered, and a variety of simple and straightforward conditions were discussed. Each panel consisted of three physicians, with as wide a representation of the profession of that district as possible. On broad subjects, it was customary to include on the panel an internist, a surgeon, and a general practitioner.

It is planned to continue this series until May, when twenty-six programs will have been successfully completed. The panels were presented at 3:30 p.m. on Wednesday afternoons during one of the women's program periods, and it is known that the audience was quite large. It is of interest to note that the Regina and District Medical Society insisted upon having no advertising before or after the program which had anything to do with proprietary medicines. Next year's preliminary planning is for a thirteen-week series.

A proposed 40-bed addition to the Weyburn Union Hospital is under consideration by the Hospital Board. A Geriatric Centre for that area is also under consideration.

The Executive of the Swift Current Union Hospital Board has been directed to investigate the need for further pathological and diagnostic services. This would require the construction of an east wing to the present hospital building.

During February, an exhibit of bird photography was opened for the public in the Natural History Museum in Regina. Guest speaker on the opening night was Dr. C. S. Houston of Yorkton, who makes natural history his hobby. Besides being a veteran in duck banding with Ducks Unlimited, Dr. Houston has done considerable research on Saskatchewan birds, particularly on the history of early bird records in the Province.

Dr. Humphrey Osmond, Superintendent of the Saskatchewan Hospital at Weyburn, issued an appeal for more visitors to patients. Dr. Osmond spoke to the people of the Weyburn district who had come to the hospital for the "Open House" activities being held in conjunction with Mental Health Week.

The composition of the Regina General Hospital Board has been reduced to ten members from twelve by Regina City Council.

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In passing a by-law, the City Council fixed representation at: four aldermen, four city residents, the mayor, and the city medical officer of health.

A small committee has been established in Saskatchewan to review the potential hazards of ionizing radiation in this province, and to make recommendations concerning control measures when deemed necessary. The membership of this committee is as follows: Chairman—Dr. Norman Williams, Director of Occupational Health Branch, Department of Public Health; Secretary—Mr. M. R. Brown, of the Department of Public Health; and Drs. J. W. Bawden of Regina and T. A. Watson of Saskatoon with Dr. C. V. Cormack of the University of Saskatchewan Department of Physics.

An additional $12,000 is being provided by the Saskatchewan Division of the Canadian Cancer Society for the Cancer and Medical Research Institute of the University of Saskatchewan in Saskatoon. This organization has already donated $395,000 on its own initiative and $25,000 has been given by the Saskatchewan Division, through the National Cancer Institute. Other funds were $19,000 as a Dominion-Provincial Health Grant, $307,000 from the Provincial Government, and $20,000 from the Provincial Department of Health. The University's board of governors provided $70,000 for an annex to accommodate laboratory animals.

The 1959 Medical Show sponsored by the Student Medical Society of the University of Saskatchewan was held during the latter part of February. With many new features added, the show took place in the University Hospital, the adjoining Medical College Building, and the Cancer Research Building.

Together with an exhibit of x-ray facilities and hypothermia, the show included visits to the basic science laboratories and exhibits in biochemistry, physiology, bacteriology and pathology, to provide an insight into methods of research and diagnosis in the study of disease. Special departments in medicine, surgery, obstetrics and pædiatrics were also involved, along with the cardiopulmonary laboratory. Surgical films were also shown.

During February, Dr. James Metcalfe, Associate in Medicine, Peter Bent Brigham Hospital and Associate Physician, Boston Lying-in-Hospital, visited Saskatoon, and delivered the Merck Lecture, his topic being "The management of heart disease in pregnancy." The 1959 Merck Lecture was sponsored jointly by the Saskatoon and District Medical Society, and the College of Medicine, University of Saskatchewan.

During February, Saskatchewan hospital personnel attended two hospital institutes held in Regina. One for hospital housekeepers was held at the Regina General Hospital. The second institute was on labour relations for administrators and trustees. It was held at the Regina Civic Health Centre.

Most of the delegates came from Saskatchewan hosiptals. There were also a number of representatives from Alberta and Manitoba. The institutes were sponsored by the Saskatchewan Hospital Association in conjunction with the Canadian Hospital Association.

G. W. PEACOCK

MANITOBA

At a meeting of the Sanatorium Board of Manitoba on January 23, the chairman reported that the Minister of Health and Public Welfare had requested the Board to consider the construction and operation of a Rehabilitation Hospital and an Extended Treatment Hospital in Winnipeg. No specific agreement has yet been received but motions were passed unanimously that the executive committee of the Board be empowered to execute an agreement with the government of the Province of Manitoba to construct and operate a Rehabilitation Hospital and to investigate and report its recommendations with respect to an Extended Treatment Hospital in Greater Winnipeg. It is proposed to build the Rehabilitation Hospital in the block bounded by Bannatyne Avenue, Sherbrook Street, McDermot Avenue and Olivia Street. No site for the proposed 500-bed Extended Treatment Hospital has yet been selected.

Dr. A. E. Rodin has opened the Central Medical Laboratory at 609 Boyd Building, Winnipeg.

Dr. James Metcalfe, Associate in Medicine of the Peter Bent Brigham Hospital, Boston, and Dr. Richard D. Rowe, Research Associate in Cardiology, Hospital for Sick Children, Toronto, were the two speakers for the Manitoba Heart Foundation Lecture on February 6 in the Medical College Auditorium. Dr. Metcalfe's subject was "Heart disease in pregnancy", and Dr. Rowe's "Heart disease in the first year of life".

The departments of obstetrics and pædiatrics, University of Manitoba, held a postgraduate institute, March 25 and 26, on "Problems of the mother and baby at term". The visiting guest speaker was Dr. Helen Wallace, Professor of Maternal and Child Health, University of Minnesota. Local speakers were Drs. Brian Best, Harry Medovy, A. W. Andison, R. L. Willows, John Moorhouse, W. Friesen, A. S. Majury, Jean Webb, E. G. Brownell, Jean McFarlane, Bruce Chown, E. J. W. Briggs, J. C. Wilt, K. Finkel, A. C. McInnis and J. R. Mitchell and Professor G. Sisler.

Dr. Werner W. Hunzinger (M.D., Heidelberg) has joined the Manitoba Clinic, Winnipeg, and is practising in the department of psychological medicine.

Dr. Thomas E. Cuddy and Dr. Samuel I. Yamada, both University of Manitoba specialists, are among 13 Canadian scientists awarded National Heart Foundation Fellowships. They will return from the United States to carry on their research in Winnipeg.

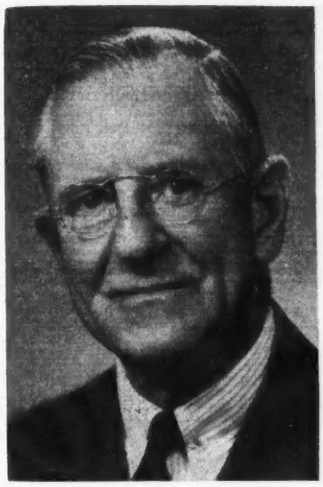
ROSS MITCHELL

ONTARIO

Through the generosity of the late Dr. Robert Thomas Noble, who graduated from the University of Toronto in 1895, and was for many years the Registrar of the College of Physicians and Surgeons of Ontario, a bequest has been made to the Medical Library of the University of Toronto. The interest from the fund, which was given in memory of the Class in Medicine of 1895, is to be used for the purchase of books and periodicals for the Medical Library.

Dr. Walter W. Wright, professor emeritus of ophthalmology, University of Toronto, has been honoured by a lectureship in his name established with funds raised by Department of Ophthalmology staff members, former students, and friends.

Dr. Wright conceived and developed the postgraduate training of physicians in eye diseases, the first such training in Canada, which began at the University of Toronto in 1941. Since then 65 specialists have been trained and are now practising from coast to coast. This project still holds Dr. Wright's special interest. He is also consultant to the Canadian National Institute for the Blind, the Toronto General Hospital, and the Hospital for Sick Children.



Dr. W. W. Wright

He joined the University of Toronto staff in 1908 after graduating four years earlier, and in 1914-15 did postgraduate work at the Royal London Ophthalmic Hospital. He then served as an ophthalmic specialist in the Canadian Army Medical Corps at Bramshott Hospital, England, and in France, and later at Shornecliffe Hospital, Folkestone, Kent. He returned to the University in 1921, and headed the Department of Ophthalmology from 1941 until his retirement in 1946. Dr. Wright was the first to report on the use of living sutures in the treatment of ptosis in 1922, and in later years was active in stressing the necessity for early treatment of strabismus in infants. A renowned wicket-keeper in his younger days, Dr. Wright was a member of the Canadian cricket team versus the United States in 1905, and toured England in 1910.

The first Walter W. Wright lecture was given by Professor Norman Ashton, ophthalmic pathologist of the Institute of Ophthalmology, London, England, who spoke on "A new approach to the problem of diabetic retinopathy" at the Academy of Medicine on February 27.

The Alcoholism Research Foundation, Toronto, has just presented its Eighth Annual Report to the Provincial Legislature. More than 90 past and current research projects of the Foundation are described in the report, together with sections on the operation of five alcoholism treatment clinics across the province, and of the Foundation's education department.

The Foundation currently operates one small in-patient unit in Toronto, and out-patient facilities in Toronto, London, Ottawa and Hamilton, but the report's proposals for expansion include:

(a) Facilities for detoxication treatment of acutely ill patients within the Foundation as well as in community general hospitals.

(b) An adjacent rehabilitation unit similar to the present Toronto in-patient service at Brookside Clinic.

(c) An out-patient clinic with considerably expanded facilities for group and recreational activities and such specialized services as psychotherapy, casework, arts and crafts, reading rooms and a clinical laboratory.

(d) A specially equipped separate medical research unit.

(e) A "half-way house" where out-patients might live while starting their rehabilitation in the community.

(f) A chronic treatment unit capable of handling patients who might be sent to it by the courts under any existing or future legislation in dealing with compulsory treatment.

(g) Expanded facilities to enable handling of greater numbers of doctors, psychologists, social workers, nurses and so on who can receive training and professional education through the Foundation.

The Foundation's several existing clinics throughout Ontario dealt with 1565 patients last year, of whom 946 were new patients. It is estimated that there are more than 70,000 alcoholics in Ontario, with about 4000 more joining their ranks every year. The report stresses the unlikelihood that any program to multiply the number of special alcoholism clinics could be successful in keeping up with the growth of the problem.

Lakehead Notes

Dr. F. F. P. Thompson of Port Arthur has been named to replace Dr. Powell as coroner, with Dr. Thomas Heringer as his assistant. Dr. C. H. Johnson Reason of Marathon has been appointed as coroner.

On February 19, Dr. John Keith, of the Hospital for Sick Children, Toronto, visited the Lakehead on the invitation of the Thunder Bay Medical Society. A morning clinic session was held in McKellar Hospital, Fort William, for which Dr. J. R. Machan was the clinical clerk. A number of pædiatric cardiac problems were presented and discussed. An evening session was held on the same day in conjunction with the regular meeting of the Thunder Bay Medical Society, chaired by Dr. C. G. Wilson of Port Arthur, the president. At this meeting Dr. Keith presented a paper on congenital heart problems and rheumatic heart disease. A large attendance of Lakehead physicians found the presentation very stimulating. The evening meeting was held in the St. Joseph's Hospital of Port Arthur.

C. M. JOHNSTON

QUEBEC

On February 11, the Provincial Board held a special general meeting for final study of the proposed new Medical Act. A text had been prepared by our attorney, Mr. Noël Dorion, and submitted to the governors. About one-third of the Act was studied and approved with some modifications. Three points were debated at length and voted upon.

At a previous meeting of the Committee on Legislation, Dr. R. L. DuBerger had proposed that the number of governors from Montreal be increased by one, and he suggested that a new division be carved out from

District No. 12, to obtain another seat for our English-speaking colleagues who comprise 40% of doctors in Montreal and 25% in the whole province; at present, they have only one out of 18 elected governors. This was turned down by the President and another member of the committee, Dr. Bissonnette.

At the general meeting, Dr. DuBerger brought the matter up once again in the form of a minority report from the committee. A long discussion ensued. Drs. Fafard, Beauchesne, Bissonnette and Gobeil talked against the proposal, while Drs. H. Gagnon, R. Gagnon, Ward and Lachaine were in favour of it. A secret ballot was asked and the motion was defeated by a vote of 11 to 10. It now seems that our English-speaking friends will remain with only one governor unless strong representations are made before our new Act is approved by the Legislature, probably next year.

By a vote of 20 to 1, the President being the only dissenter, it was decided not to limit the membership on the Executive to five, i.e., the President, the three Vice-presidents and the Registrar; the Board will be allowed, through by-laws, to add one or two governors should it be deemed advisable.

Finally, the Act, as proposed to the board, stated that the President would be Chairman of all committees. Dr. DuBerger suggested that this was vesting too much power in the hands of one man and might some day prove objectionable and even dangerous. At present, the President is Chairman of all committees; it was felt that such an arrangement should not be made irrevocable by law. The purpose was to leave it in the by-laws, which can at any time be altered by a majority vote of the Board. It was suggested that the President legally occupy the Chair of all general meetings and at meetings of the Executive; that he would also be a member *ex officio* of all other committees, but not necessarily act as Chairman of these. This brought about a long and lively discussion; finally the motion was carried by a vote 11 to 9.

The study of the Act will be resumed on April 8.

L'Association du Diabète de la Province de Québec Inc. s'est réunie le 19 février dernier et a procédé à son assemblée annuelle. Au cours de l'assemblée le trésorier et la secrétaire générale ont présenté leur rapport annuel pour l'année 1958-1959 résumant les activités de l'année. A la suite, ont eu lieu les élections générales avec résultat suivant:

Aux patrons d'honneur déjà existant: Dr Charles H. Best, C.B.E., M.D., F.R.S.C.; Dr Marc Trudel; Dr Ad. Groulx; nous avons l'honneur d'ajouter l'Honorable Ministre Arthur Leclerc, Ministre de la Santé de Québec. Président: Me. Georges H. Long, B.C.L., Montréal. Vice-Président: Dr Armand Gratton, M.D., Hôpital Notre-Dame, Montréal. Secrétaire: Mlle Claire Dalmé, Dt. P., Montréal.

PRINCE EDWARD ISLAND

The latest addition to the extramural lectures in the 1958-59 series was given at the Charlottetown Hotel on Thursday, February 19, when, after a dinner and a short business meeting, Dr. Bernard F. Miller, Assistant Professor of Surgery (Orthopædics), Dalhousie University, spoke on lesions of the shoulder.

PUBLIC HEALTH

SUMMARY OF REPORTED CASES OF NOTIFIABLE DISEASES IN CANADA*
ISSUED BY THE PUBLIC HEALTH SECTION, DOMINION BUREAU OF STATISTICS

Disease	*Week ended (1959):* Feb. 7	Feb. 14	Feb. 21	Feb. 28	*Cumulative total since beginning of year* 1959	1958
Brucellosis (undulant fever) (044)	1	—	1	1	7	8
Diarrhœa of the newborn, epidemic (764)	—	—	3	—	3	—
Diphtheria (055)	—	—	1	1	6	13
Dysentery:	7	17	27	23	143	80
(a) Amœbic (046)	—	—	—	—	1	1
(b) Bacillary (045)	7	16	27	23	139	79
(c) Unspecified (048)	—	1	—	—	3	—
Encephalitis, infectious (082.0)	—	—	2	—	2	2
Food poisoning:	45	6	2	1	73	110
(a) Staphylococcus intoxication (049.0)	—	—	—	—	1	—
(b) Salmonella infections (042.1)	—	6	2	1	33	109
(c) Unspecified (049.2)	45	—	—	—	39	1
Hepatitis, infectious (including serum hepatitis) (092, N998.5)	132	150	158	161	1207	490
Meningitis, viral or aseptic (080.2, 082.1)	1	—	1	6	10	3
Meningococcal infections (057)	2	4	5	3	35	58
Pemphigus neonatorum (impetigo of the newborn) (766)	—	1	—	—	1	—
Pertussis (whooping cough) (056)	121	101	86	101	1026	1085
Poliomyelitis, paralytic (080.0, 080.1)	1	—	—	2	7	7
Scarlet fever and streptococcal sore throat (050, 051)	555	587	630	608	4618	2575
Tuberculosis:	56	60	63	104	777	1175
(a) Pulmonary (001, 002)	26	36	36	68	540	934
(b) Other and unspecified (003-019)	30	24	27	36	237	241
Typhoid and paratyphoid fever (040, 041)	1	2	1	3	46	35
Venereal diseases:	282	299	295	300	2476	2791
(a) Gonorrhœa (030-035)	242	268	253	270	2164	2460
(b) Syphilis (020-029)	40	31	42	30	312	331
(c) Other† (036-039)	—	—	—	—	—	—

*Excluding Northwest Territories. Figures for the Yukon are received four-weekly and are, therefore, shown in the cumulative totals only.

†Including chancroid, granuloma inguinale and lymphogranuloma venereum.

ABSTRACTS *from current literature*

MEDICINE

Uncommon Roentgen Patterns of Pulmonary Sarcoidosis.

B. FELSON: *Dis. Chest*, 34: 357, 1958.

This report deals with two interesting but less familiar roentgen patterns of pulmonary sarcoidosis, the multinodular and multicystic. The former consists of multiple large nodules simulating those of malignant pulmonary metastases. The multicystic type is probably a complication of the fibrotic stage of sarcoidosis, the cysts representing emphysematous bullæ and bronchiectatic cavities. The clinical and roentgen features encountered in a group of five cases presenting the multinodular and nine cases showing the multicystic pattern are described, and their importance in differential diagnosis is emphasized. Criteria are set forth which should suggest the diagnosis of sarcoidosis in such cases.

S. J. SHANE

Mitral Valvuloplasty in Patients Past Fifty.

H. BLACK AND D. E. HARKEN: *New England J. Med.*, 259: 361, 1958.

A careful follow-up study was made on 154 patients over the age of 50 who underwent mitral valvuloplasty for the correction of mitral stenosis. The results were compared with those obtained on almost a thousand patients under the age of 50. The authors divide their cases of mitral stenosis into four groups, depending upon severity of symptoms. The incidence of the severe Group 4 cases was higher in the older patients but, allowing for degree of severity, results of mitral valvuloplasty were statistically as good after the age of 50 as in younger patients. It is concluded that the properly selected patient over the age of 50 who has mitral stenosis should be offered surgical relief with the same assurance that is justified at an earlier age.

NORMAN S. SKINNER

Preoperative Bronchial Biopsy in Pulmonary Tuberculosis.

N. C. ANDREWS, C. I. BRITT AND P. C. PRATT: *Am. Rev. Tuberc.*, 78: 839, 1958.

Pre-resection bronchoscopy and bronchial biopsy were performed in 100 patients to determine whether this procedure could be done safely and would demonstrate the condition of the submucosa of the bronchus leading to an area of pulmonary tuberculosis. No complications resulted from routine bronchial biopsy. A fairly accurate preoperative evaluation of the condition of the bronchial submucosa is believed to be obtainable by biopsy.

Inflammation of the bronchial submucosa appears to be related to occurrence of post-resection complications of bronchial origin. With a safe method of determining the condition of the bronchial submucosa by bronchial biopsy available, it is suggested that, if a method can be found to convert the condition of the bronchial submucosa from abnormal to normal before resection, the incidence of complications of bronchial origin can be further reduced. [This is one of the functions of pre-surgical antimicrobial therapy. —S.J.S.]

S. J. SHANE

Essential Hyperlipæmia.

G. SCHETTLER, M. EGGSTEIN AND H. JOBST: *German M. Monthly*, 3: 310, 1958.

The results of a study of 30 cases of essential hyperlipæmia observed during the past three years are reported. The clinical findings show that 25 of the cases had demonstrable vascular disease such as coronary thrombosis, angina pectoris, peripheral circulatory insufficiency or marked eye-ground changes. In 23 patients the liver was enlarged and in nine the spleen; 18 had more or less marked xanthomatosis and 18 had bouts of upper abdominal pain. The chemical investigations included determination of serum lipids and their various fractions. The striking differences in the composition of chylomicrons in essential hyperlipæmia as compared with the alimentary hyperlipæmia in normal persons are demonstrated, and the difference in electrophoretic pattern between the lipids in the two is also shown. The proportions of cholesterol ester, cholesterol and phospholipids are increased at the expense of the neutral fats, and the beta-lipoprotein fraction has a greatly increased lipid content on electrophoresis of serum in essential hyperlipæmia. On a low-caloric low-fat diet it was possible to observe a decrease in serum turbidity, a fall in the neutral fat content, and regression of xanthomata and hepatomegaly and splenomegaly, as well as disappearance of abdominal pain. In some cases ACTH produced good results and in others heparin was very useful. This suggests to the authors that there are different forms of essential hyperlipæmia. Whilst even a small addition of fat abolishes the good results of diet, oils with a high content of doubly unsaturated fatty acids exert a favourable effect on the serum in essential hyperlipæmia.

W. GROBIN

Precordial Murmurs during Pregnancy and Lactation.

J. W. HURST, J. STATON AND D. HUBBARD: *New England J. Med.*, 259: 515, 1958.

Two types of innocent murmurs may develop during pregnancy and are often wrongly attributed to heart disease. Some of these murmurs emanate from the heart itself and result from increase in blood velocity. Other murmurs are extracardiac in origin. It is not rare to have a systolic murmur originating in the mammary artery; this may appear about the sixth month of pregnancy and persist until the termination of lactation. A continuous precordial murmur may also be heard, presumably due to increased flow of blood in the mammary veins. Illustrative case histories are presented. These murmurs are not uncommon, and care should be taken to avoid the erroneous diagnosis of cardiac abnormality.

NORMAN S. SKINNER

Ambulatory Tuberculous Patients with Pulmonary Cavities and Noninfectious Sputum (the "Open-Negative" Syndrome).

J. BREUER *et al.*: *Am. Rev. Tuberc.*, 78: 725, 1958.

The incidence of reactivation of disease in a group of ambulatory tuberculous patients with cavities *and noninfectious sputum* was 11%. Nine of 10 relapses occurred within 18 months of the start of observation. The observation periods of the patients whose disease did not reactivate averaged about two and a half years.

Two of the 10 observed relapses were in patients whose cavities were classified as "thin-walled," 8 in those with "other than thin-walled" cavities. This

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gave a relapse rate of 4% among cases with thin-walled cavities, and 19% among the others.

It is suggested that thick-walled cavities have a fairly serious prognosis with respect to reactivation of tuberculous disease. Consequently, their presence (barring other reasons to the contrary) would constitute a fairly strong indication for resection. With thin-walled cavities, a wait-and-see attitude seems to be much more justifiable, although factors such a non-tuberculous infection, spontaneous pneumothorax, or giant tension cavity may add to the indications for surgical intervention. S. J. SHANE

Patent Ductus Arteriosus with Pulmonary Hypertension Simulating Ventricular Septal Defect.

J. L. GONZALEZ-CERNA AND C. W. LILLEHEI: *Circulation*, 18: 871, 1958.

In 10 patients, a patent ductus arteriosus with atypical manifestations strongly resembled an intracardiac shunt. In all the 10 patients corrective surgery – which was carried out successfully – demonstrated that the patent ductus arteriosus was the only lesion. The diagnostic criteria of value in establishing a correct differential diagnosis in such patients are reviewed and summarized. It is emphasized that the use of controlled hypotension is of great value during surgical division of the patent ductus, if associated with significant degrees of pulmonary hypertension. S. J. SHANE

Megaloblastic Anæmia of Pregnancy and the Puerperium.

C. GILES AND E. M. SHUTTLEWORTH: *Lancet*, 2: 1341, 1958.

All patients with a hæmoglobin level of 65% (9.5 g. per 100 ml.) or less, attending antenatal clinics at two hospitals, were followed up from the 24th week of pregnancy. If iron therapy did not raise the hæmoglobin level, sternal puncture and serum iron estimation were carried out. Of 474 patients who came under this category during a period of 14 months, 90 were found to have a megaloblastic marrow and the results of the laboratory findings in these cases are compared with those in the other pregnant women with low hæmoglobin.

Severe anæmia in late pregnancy and puerperium was more frequently megaloblastic than normoblastic. Serum iron was elevated in over 60% of the megaloblastic anæmias and was low or normal in 90% of the normoblastic anæmias. Within 48-72 hours after folic acid therapy was begun, there was a fall in serum iron level, which was more pronounced in the cases where the original level was very high. The great majority responded with a 10-20% reticulocytosis within 5-10 days of folic acid treatment. Achlorhydria was found in 26 of the 67 cases examined by histamine test meals or the Diagnex dye test. No significant facts were elicited from a study of age distribution or other clinical features. All patients with megaloblastic anæmia responded to folic acid therapy. There was a significantly higher percentage of women with megaloblastic anæmia whose diet was poor than in the normoblastic group and in healthy controls. The pathogenesis of this disease is discussed and the various factors that may have operated in these cases are mentioned. There is no explanation for the high incidence of megaloblastic anæmia in this series.

W. GROBIN

SURGERY

Incidence of Tricuspid Stenosis, with Particular Reference to Cardiac Surgery.

J. B. WALLACH AND A. A. ANGRIST: *Dis. Chest*, 34: 537, 1958.

In a series of 509 consecutive autopsied cases of rheumatic heart disease, there were 282 instances of severe stenosis of the mitral and/or aortic valves. An additional 17 (5.7%) had an associated tricuspid stenosis which might have been benefited by commissurotomy.

Because this series is based on morphological changes and not clinical criteria for selection of patients for cardiac surgery, it is suggested that tricuspid stenosis may be commoner than is apparent from this figure. Unrecognized tricuspid stenosis may be revealed by mitral commissurotomy and improved by subsequent tricuspid commissurotomy.

The diagnosis of tricuspid stenosis is no longer only a question of prognosis and of academic interest. Increased awareness of its presence, careful clinical observation of patients with rheumatic heart disease, and the use of newer techniques such as cardiac catheterization to detect this lesion may permit surgical treatment. S. J. SHANE

Pulmonary Fat and Tissue Embolism in Aircraft Accident Fatalities.

J. L. HICKEY AND V. A. STEMBRIDGE: *J. Aviation Med.*, 29: 787, 1958.

The authors briefly review the literature on incidence, significance and pathological aspects of pulmonary fat emboli. Of particular interest in aviation pathology is the occurrence of non-traumatic pulmonary fat embolism in fatal cases of decompression sickness.

For the past two years the U.S. Armed Forces Institute of Pathology has served as a central laboratory for the pathological and toxicological investigation of aircraft fatalities. After autopsies done all over the world, the tissue is submitted to the central laboratory where detailed studies are carried out. In addition to pulmonary fat embolism, 22 cases of bone marrow, cerebral tissue and hepatic tissue embolism are referred to. These cases represent embolism occurring under varying circumstances of definite survival, possible momentary survival, and instant death.

Scully, in studying Korean battle casualties, noticed that the most severe degree of pulmonary fat embolism was observed in men dying during the first week after wounding, with a peak incidence in the early part of the week. Moreover, they had seen fat embolism in those who presumably lived no longer than a few minutes. In the present article also, the authors found that the more pronounced embolism occurred in patients with the shortest survival period. The probable higher incidence of fat embolism in those who died almost instantaneously posed a problem in explaining how such a phenomenon occurred in those deaths with immediate and complete disruption of the cardiovascular system. One common finding, that of a sudanophilic plasma in lung sections that cannot be classified as definite fat emboli, raised the question of agglutination of blood chylomicrons under certain circumstances, as a possible etiological factor in pulmonary fat embolism. This was previously reported by Layman and Moore in 1927, when they were studying the production of fat embolism without trauma in the experimental animal. ALLAN M. DAVIDSON

Massive Gastro-intestinal Hæmorrhage in Jejunal Diverticulosis.

F. R. DENKEWALTER, W. MOLNAR AND A. P. HORAVA: *Am. Surg.*, 148: 862, 1958.

It is estimated that in 10% of cases jejunal diverticulosis gives rise to surgical complications: obstruction, hæmorrhage, inflammation, perforation, contained foreign bodies and neoplastic involvement. Macrocytic anæmia has also been associated with this uncommon condition.

In reporting a case of repeated gastro-intestinal hæmorrhage cured by resecting a segment of jejunum containing several diverticula, one of which showed a chronic ulcer, points in the examination which led to the diagnosis are emphasized. No blood could be aspirated from the stomach. The gastric acidity was low and no peptic ulcer was found by x-ray though numerous diverticula of the jejunum were seen in the films. Though the diverticula were on the mesenteric side of the intestine, they consisted of all layers of the jejunal wall.

BURNS PLEWES

Pneumonectomy in Pulmonary Tuberculosis.

T. W. SHIELDS, W. M. LEES AND R. T. FOX: *Am. Rev. Tuberc.*, 78: 822, 1958.

Records of 101 patients subjected to pneumonectomy for treatment of pulmonary tuberculosis were reviewed, and two to seven year follow-up data on survivors obtained. The 60-day mortality was 10.8%. Fourteen of the 90 patients surviving the early postoperative period later died, and seven were lost to follow-up observation after discharge from hospital. Sixty-nine patients are known to be alive, 65 with inactive disease; the tuberculous process remains active in four patients.

Cardio-respiratory failure was the commonest cause of early death. Tuberculous complications were frequent causes of late mortality; their occurrence indicates a poor prognosis. Infectious sputum, interrupted antimicrobial therapy, and acute endobronchitis were common in this group. This is in contrast to the lower incidence of these findings in patients who sustained either no complications or minor nontuberculous complications. In the latter patients, satisfactory long-term survival with inactive disease is the usual course.

S. J. SHANE

Hæmodynamic Changes in Graded Hæmorrhage with Special Reference to the Peripheral Circulation.

R. K. PADHI, E. M. NANSON AND R. B. LYNN: *Ann. Surg.*, 148: 827, 1958.

Experiments on dogs were carried out in Saskatoon to test the clinical observation that estimations of peripheral blood flow were a much more sensitive index of blood loss and impending shock than blood pressure and pulse rate. Various methods of bleeding and replacement of blood volume were used in anæsthetized dogs, and peripheral flow was measured by a plethysmograph on the hind paw.

Blood loss of 15 to 30% of the circulating blood volume was tolerated without significant drop in blood pressure, but a precipitate fall occurred if another 5% was lost. In some animals there was a rise in blood pressure with blood loss within the compensated range. This overcompensation was demonstrated by pronounced vasoconstriction recorded by the plethysmograph showing a 50% reduction of pulse volume after 10% blood loss. Replacement of the lost blood resulted in a systemic blood pressure 10 to 15% above normal level. When Nembutal anæsthesia was used, bradycardia was noted to accompany loss of blood. Peripheral pulse volume and blood flow decreased with blood loss, showing that peripheral vasoconstriction compensates effectively for the loss of blood until shock supervenes.

In clinical practice, estimation of peripheral blood flow may give valuable warning of imminent shock, since patients who are on the borderline between compensated and non-compensated shock cannot be evaluated by the usual methods of systemic blood pressure and heart rate.

In replacement of blood volume, blood is superior to dextran in long-term recovery of animals, but dextran is equal to blood as an emergency replacement in maintaining adequate blood pressure.

BURNS PLEWES

Treatment of Postmastectomy Lymphœdema.

B. E. BRUSH, J. H. WYLIE, J. BENINSON, M. A. BLOCK AND T. J. HELDT: *A.M.A. Arch. Surg.*, 77: 561, 1958.

Swelling of the arm after radical mastectomy has been studied by many from Halsted on. Infection and lymphatic venous obstruction have been found to be concerned in cause and effect. Postoperative collection of fluid beneath skin flaps is a frequent precursor of infection and can be prevented by suction-drainage. The prophylactic use of antibiotics does not seem to make any difference. The use of frequent skin grafting and early shoulder mobilization is valuable, as is the routine use of elastic arm bandages postoperatively.

An apparatus for the control of chronic œdema is described: it includes a lace-up sleeve incorporating inflatable rubber tubes, an electric air pump to inflate and deflate the tubes regularly, and a custom-measured sleeve to be worn between-times. A supervised program using the above has given good results in 32 cases at the Henry Ford Hospital. Pain, discomfort and swelling are relieved, and chills, fever and localized infection are diminished.

BURNS PLEWES

THERAPEUTICS

Absorption of Orally Administered Vitamin B_{12} in Pernicious Anæmia.

J. N. MARSHALL CHALMERS AND N. K. SHINTON: *Lancet*, 2: 1298, 1958.
E. H. HEMSTED AND J. MILLS: *Ibid.*, p. 1302.

The controversy regarding absorption of orally administered vitamin B_{12} is briefly reviewed and reports are quoted of oral therapy producing hæmatological response in pernicious anæmia in relapse. The present study of 22 cases of pernicious anæmia attempts to assess clinically as well as hæmatologically and by vitamin B_{12} estimation in the serum the effects of orally administered vitamin B_{12} for periods of up to 50 months. This is an extension of work previously reported by one of the authors in collaboration with Hall and presents further confirmation that oral vitamin B_{12} can be absorbed and utilized by patients with pernicious anæmia. Hæmatological and clinical remission can be achieved without raising to normal the level of vitamin B_{12}. On doses of 100 micrograms taken orally every day, the patient can be maintained in good health, but parenteral therapy is still the most reliable form of treatment.

Hemsted and Mills report their method of comparing the effectiveness of oral treatment with vitamin B_{12} and parenteral injection. The oral dose was given in an elixir and the instructions were to take two teaspoonfuls every morning one hour before eating or drinking. This amount contained 100 micrograms. On this regimen 71 patients were maintained for two years just as well as patients given a monthly intramuscular injection of vitamin B_{12}. W. GROBIN

Prophylactic Use of Sulfamethoxypyridazine (Kynex) during a Streptococcal Epidemic.

I. SCHULTZ AND P. F. FRANK: *Am. J. M. Sc.*, 236: 779, 1958.

The prophylactic effectiveness of sulfamethoxypyridazine during a streptococcal epidemic was studied among 325 navy recruits excluded from penicillin prophylaxis. Compared with untreated controls, 154 men who were given 2 or 3 g. of the drug once weekly were significantly protected from acquiring group A streptococci. Side effects of the drug were reported by 7.1% of treated men, but only 1.3% (two men) had reactions considered severe. The authors consider that sulfamethoxypyridazine can be recommended for use among penicillin-sensitive individuals requiring streptococcal prophylaxis.

S. J. SHANE

OBSTETRICS AND GYNÆCOLOGY

Relative Effects of Obstetrical Anæsthesia and Analgesia upon Promptness of Neonatal Respiration.

K. G. PHILLIPS: *Am. J. Obst. & Gynec.*, 77: 113, 1959.

A comparison of 765 infants delivered under spinal anæsthesia with 457 delivered under general anæsthesia clearly indicates that respiration is more prompt and efficient after spinal than after general anæsthesia. Under the circumstances of this study, the factor of anæsthesia for delivery appears to be more significant in delaying neonatal respiration than the sedative action of analgesic drugs during labour.

Since the difference in onset of respiration upon which this study is based is not known to affect the infant, the results of the study are not intended, by themselves, to determine the choice of the anæsthetic in labour. It is realized that many factors other than those considered here will influence the choice.

ROSS MITCHELL

DERMATOLOGY

Adverse Reactions to Sulfamethoxypyridazine (Kynex) in Treatment of Dermatitis Herpetiformis.

H. O. PERRY AND R. K. WINKELMANN: *J. A. M. A.*, 169: 127, 1959.

Twenty patients were treated with sulfamethoxypyridazine (Kynex) for hitherto uncontrolled dermatitis herpetiformis. In 14, the results were classed as good, but four of these patients had reactions to the drug and one of these died. The authors summarize the experience of other investigators whose incidence of reactions to this sulfonamide varied from 1.9 to 15.3%. The type of reactions ranged from headache and maculopapular rash to severe bullous eruption. As the blood level of this drug at a certain dose given over a prolonged period cannot be predicted, routine assay of the blood for the sulfonamide is recommended.

W. GROBIN

A Further Study of the Kveim Reaction in Sarcoidosis and Tuberculosis.

H. L. ISRAEL *et al.*: *New England J. Med.*, 259: 365, 1958.

Of 60 patients with sarcoidosis, 25% had a positive Kveim test; among 40 patients with pulmonary tuberculosis there were no positive Kveim tests. The principal cause of inconstant results was the variability of the test material (ground-up sarcoidal lymph nodes). Another cause of confusion was histological interpretation. The authors do not recommend this test as a substitute for clinical and biopsy methods of diagnosis.

ROBERT JACKSON

Cutaneous Xanthomas.

M. A. EVERETT: *A.M.A. Arch. Dermat.*, 78: 334, 1958.

The author states that three types of xanthoma occur clinically: (1) Plane xanthomas are seen most frequently about the eyes and are called xanthelasmas. (2) Tuberous xanthomas occur with greatest frequency about the extensor prominences. (3) Papular xanthomas are most frequently seen on the buttocks, trunk and palms. Of eight patients with xanthelasma, only two had mild hypercholesterolæmia, one with an associated arteriosclerosis. In four of the eight patients, there was a family history of xanthelasma. All 12 patients with tuberous or papular xanthomas had metabolic lipoid disease. The author recommends a fasting serum cholesterol and total lipid determination in all patients with cutaneous xanthomas. He makes special emphasis of the fact that the cause of the xanthoma cannot be determined from its morphology.

ROBERT JACKSON

Clinical Management of Idiopathic Hirsutism (Adrenal Virilism).

W. H. PERLOFF *et al.*: *J. A. M. A.*, 167: 2041, 1958.

Forty-five women with hirsutism of various grades were compared with 16 normal women as to various clinical features and laboratory findings, particularly the 24-hour urinary output of 11-desoxy, 11-oxygenated and total neutral 17-ketosteroids. In seven of the patients, the hirsutism was part of a surgically verified Stein-Leventhal syndrome, and in 22 it was associated with irregularities of menstruation. There were also 16 patients with mild hirsutism and regular menses. The level of excretion of the 11-desoxy derivatives (including strong androgens) was always elevated, while the level of excretion of the 11-oxygenated fraction (including weak androgens) was not. Treatment with prednisone, 7.5 to 15 mg. a day, reduced the levels of 11-desoxy fraction, relieved hirsutism and usually restored menstrual function to normal. Some idea of the decrease in hirsutism was obtained by noting the decreasing need for depilation by wax. Excess hair on the chin, upper lip and thighs was most resistant; that on the sides of the face disappeared most quickly and completely. It was found necessary to give prednisone for at least six to 12 months, and in three cases hair growth recurred as soon as the drug was stopped. The dosage of prednisone was adjusted by 2.5 mg. increments, depending on the clinical results and the 17-ketosteroid levels. Facial hirsutism of the Cushing type and/or acne did not develop in any patient with an originally elevated excretion of 11-desoxy ketosteroids.

ROBERT JACKSON

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BOOK REVIEWS

CALL THE DOCTOR: A Social History of Medical Men. E. S. Turner. Michael Joseph, London and Toronto, 1958. $5.00.

This is the sixth of Mr. Turner's social histories and if it is a fair sample of the others then your reviewer will be reading five other delightful books. It is not a history of medicine but a history of doctors as members of society. The author has taken Great Britain from about the time of Chaucer, say 1300, to the present time as his field of study. But his comments, observations and selection are so sapient that his book is of much more than local interest. John of Arderne, in about 1300, advises as follows. "Tell the patient that with God's help you hope to cure him, but inform the relatives that the case is grave." It appears that some of us still follow this ancient and prudent rule.

With Mr. Turner as a guide we have a brisk and entertaining but above all instructive excursion down the centuries in which the relationships of doctors to society and to each other are always kept in front of us. It would seem that as a profession we have been unusually insensitive to public opinion and corporately we are rarely appreciated. Indeed the conduct of the Royal Colleges in Britain has frequently been inept and sometimes scandalous. The mirror that he holds up to us is neither flattering nor unfair, but extremely useful, particularly at this time when our relationships with governments are becoming of ever increasing importance to us.

This book is obligatory reading for university professors and medical students, none of whom can afford to miss it. The former will be unable to see their place in teaching medicine if they omit to do so; the latter will be unable to understand the intricate, strange and fascinating adventure on which they have embarked.

While academics will benefit by a broadening grasp of their place in medicine, it is to our professional leaders in day-to-day business that this book should have immediate appeal. Indeed while we should urge professors and students to read it, we should insist that the heads of our medical associations, both small and great, keep a copy at the bedside and that they should peruse it in those important moments when they are thinking about how to further our professional well-being. Mr. Turner maps out over 500 years in which doctors have had dealings with governments. He indicates clearly how and why we have usually failed in these dealings, and also our sporadic successes. Every provincial medical association library should have several copies strewn around, and several more out on permanent loan to its officers, who should be encouraged to read and re-read it. We are not a profession which attracts many introspective people. We are unlikely to devote much energy to thinking about how others see us. We prefer to be up and doing. Consequently in our corporate relationship with government and public we have frequently been our own worst enemies. Perhaps in Canada we can learn from past experience in Britain. If we can, then there is no better guide than this excellent book.

It happens in addition to be good reading and often very, very funny.

THE MANAGEMENT OF CHILDHOOD ASTHMA. F. Speer. 116 pp. Illust. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1958. $5.25.

The author covers the care of the asthmatic child from the time he is first seen until the end of his treatment. He discusses the child in relation to his family, particularly the emotional problem presented by an asthmatic child in the family; the various methods used for diagnosis, particularly history and clinical picture; determination of the etiology with a discussion of the various etiological agents of asthma such as inhalants, foods, drugs, insects and non-specific factors.

Details of investigation including skin testing are also gone into in detail, as well as the treatment of the acute attack of asthma, and specific treatment including the avoidance of inhalants and food allergens, and hyposensitization. There is an additional chapter on the management of cases which do not respond to the ordinary type of treatment, and another on special diets such as milk-free, egg-free and wheat-free diets.

This book is extremely well written. It is easy to read and is quite comprehensive, being an excellent book for a physician or pædiatrician who is caring for asthmatic children. As the title implies, it practically ignores all other forms of allergy, confining itself almost entirely to asthma.

The various treatment methods are those used by the author himself, and very little space is devoted to other types of treatment and methods of investigation used by other workers. Although this is a defect in the book, nonetheless it gives a detailed description of the methods which the author himself has found quite satisfactory. Two other defects in the book are a lack of a separate section on the prognosis of asthma, which is of considerable interest to physicians and particularly to the parents of asthmatic children. The list of references is also rather sketchy, but in spite of these defects the book is an extremely good one.

TEMPORAL LOBE EPILEPSY. Edited by Maitland Baldwin and Pearce Bailey, Georgetown University, Washington, D.C. 581 pp. Illust. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1958. $17.00.

This volume contains the papers read and the ensuing discussions at the second colloquium on temporal lobe epilepsy held at Bethesda, Maryland, in the spring of 1957. The proceedings were sponsored by the National Institute of Neurological Diseases and Blindness, and the National Institutes of Health of Bethesda, in cooperation with the Internationl League against Epilepsy. The contributors and discussors number among them many well-known names in this field.

The proceedings took place in five sessions, each devoted to a different aspect of the general subject of temporal lobe epilepsy. These were the electroencephalography and the neurophysiology of the temporal lobe, pathological aspects of the subject, neurochemistry and seizures, the assessment of surgical problems, and lastly the results of temporal lobectomy.

The papers are of high quality, some of them excellent summaries of existing knowledge and others more concerned with unsolved problems. A few are in French with summaries in English.

The book is well produced and illustrated and will be of value to all interested in the fields of epilepsy and neurophysiology.

(Continued on page 596)

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April 1, 1959, vol. 80

(Continued from page 594)

SOCIAL PSYCHIATRY IN ACTION. A THERAPEUTIC COMMUNITY. Harry A. Wilmer, National Naval Medical Center, Bethesda, Md. 373 pp. Illust. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1958. $9.50.

This book describes clearly the author's management of a psychiatric admission ward and his treatment of many types of acute mental symptoms. The book is subtitled "Therapeutic Community" and one sees how all staff members, doctors, nurses and orderlies become an important part of the treatment team and how ward meetings are utilized so that the individual patient is helped by others, and helps the new patient to become integrated into the ward community in a way that gives the unit a very therapeutic atmosphere, removes the feeling of custody, and lays the foundation for further therapy and personality change.

The author, analytically oriented, has developed and applied principles of treatment which he first saw utilized by Maxwell Jones, T. F. Main, T. P. Rees and others in English psychiatric centres. All aspects of ward management are detailed. Staff meetings and reactions of staff change as they accept and learn new techniques are described. Transcripts of staff charting and notes and then transcripts of the patients' conversation in the ward meetings give clarity both to the method used by the author and the meaning hidden behind the mental symptoms. Thus the reader finds understandable insight into the psychodynamics with a minimum of the sometimes confusing psychiatric terminology and theoretical excursions. This makes the book particularly valuable to the general practitioner or student in psychiatry, while the psychiatrist dealing with either a mental hospital or a general hospital psychiatric ward will find a clear description of a way in which the principles of the "Therapeutic Community" may be applied effectively in the problems of such wards.

The manner in which it is written also makes it a valuable and helpful book for nurses and social workers concerned with these problems.

GASTRO-DUODENAL ULCER. Physio-pathology, Pathogenesis and Treatment. J.-Jacques Spira, London, England. 549 pp. Illust. Butterworth & Co. (Canada) Ltd., Toronto, 1956. $14.75.

As the author states in his preface to this volume, he has enlarged and brought up to date the monograph on gastric and duodenal ulcer which he first wrote in 1931. In doing this, he has changed his approach to the subject and included his personal views as to the causative factors of chronic peptic ulceration.

The book is divided into five parts. In the first four parts, the author covers the broad aspects of the physiology of the gastro-intestinal tract and the pathological considerations of ulcer formation. In spite of the wide field covered, this part of the book gives a concise description of the factors involved, along with a very complete résumé of experimental work done in chronological order. Because of the large number of references, many of which appear contradictions, the author has ended each section with a short paragraph outlining the present concept of that particular phase. This format makes the book valuable and interesting both to the busy practitioner and the more serious student of gastroenterology.

The fifth part of the book deals with clinical considerations of chronic peptic ulcer. This is well and concisely written; the author quite rightly stresses the special importance of history taking and examination, while not belittling the role of x-ray and other laboratory procedures in the diagnosis of this condition. The chapters on the complications of chronic peptic ulcer are brief but complete, and his critique of orthodox therapy is informative and interesting, particularly his comparison of results of various types of surgical procedures.

In his discussion of the pathogenesis of chronic peptic ulcer, the author advances his own theory of the cause of this condition. In his view, the ingestion of fat plays by far the greatest part in the development of the peptic ulceration. He goes further to stress the deleterious effect of this foodstuff on other body tissues and the cause of the disease or deterioration in them. This viewpoint is carried into the author's own treatment of this condition. It consists essentially in a dietary regimen which has a low fat content, and the administration of small doses of alkali for control of the excessive gastric acidity. Patients are ambulatory, with meals at the usual periods.

At the end of the volume, there is a complete bibliography of some 166 pages, which in itself is of great value to a student of gastroenterology.

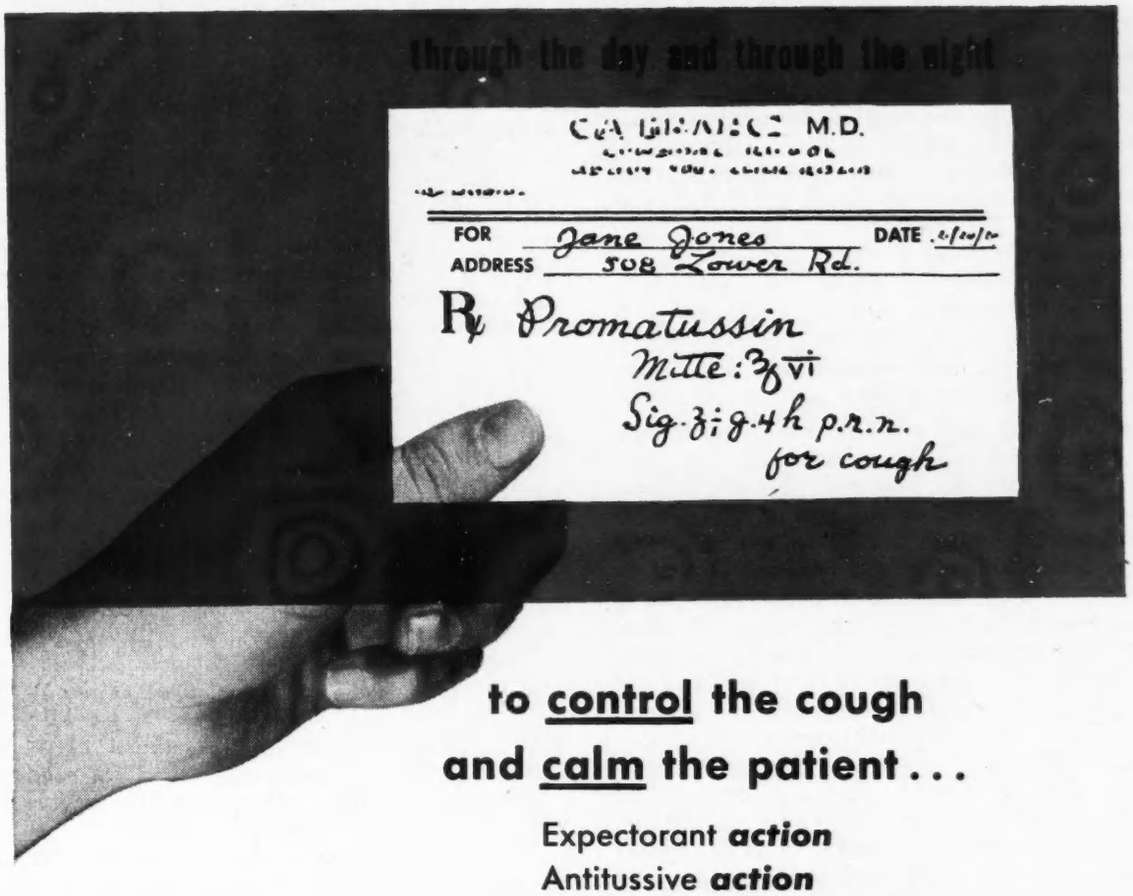
IIIe CONGRES INTERNATIONAL D'ALLERGOLOGIE. Edited by B. N. Halpern and A. Holtzer. Editions Médicales Flammarion, Paris, 1958. 940 pp.

The Third International Congress of Allergology was held in Paris in October 1958. At this extremely well organized meeting, a number of excellent symposia were held dealing with the major aspects of allergy and immune mechanisms. The majority of participants were internationally recognized figures in their respective fields, and included such an eminent authority as Sir Henry Dale. The fact that the papers, completely edited and published in a fine volume, were available at the time of the meeting is a great tribute to the editors, Drs. Halpern and Holtzer.

The volume contains reviews of the most recent advances in the field of allergy. There are symposia on asthma, properties of antibodies related to allergic mechanisms, biochemical aspects of hypersensitivity including histamine, serotonin and slow reacting substance (SRS), auto-immune mechanisms and atopic dermatitis. Almost every discipline used in the investigation of allergy is represented, such as cardiac catheterization, respiratory function, biological assay and the newer immunochemical methods. There is much comprehensive information concerning antigen-antibody reactions, isolation and characterization of skin-sensitizing antibody, homo-transplantation and auto-antibody mechanisms. Although the majority of the papers are excellent, the occasional clinical presentation leaves something to be desired. The majority of the articles are in English and there are full bibliographies. The final symposium is of interest, being a survey of clinical allergy throughout the world. This volume is highly recommended to all those interested not only in allergy but also in the connective tissue diseases, because it contains so much basic and up-to-date information in these fields.

(Continued on page 598)

action



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MEDICAL DEPARTMENT UNITED STATES ARMY IN WORLD WAR II. COLD INJURY, GROUND TYPE. Col. T. F. Whayne, University of Pennsylvania, Philadelphia, and M. E. De Bakey, Baylor University College of Medicine, Houston, Texas. Prepared under the direction of Major General S. B. Hays, Surgeon General, United States Army. 570 pp. Illust. Office of the Surgeon General, Department of the Army, Washington, D.C. 1958. $6.25.

After an introduction to battle trauma in general, the authors go on to describe the various types of cold injury in some detail. Here, as elsewhere in the book, there are many excellent photographs, graphs and tables to illustrate the salient features of these important forms of thermal injury.

The historical section reviews the implications of the problem from the Napoleonic Wars up until modern times. One cannot but wonder why adequate steps were not taken long before the past decade or so to prepare suitable clothing and footgear, and to instruct all and sundry on prophylactic measures. It is a curious fact that reference has not been made to the numerous casualties of this type that occurred during the Korean conflict. Many of these could have been prevented if the lessons learned in World War II had not been overlooked. The chapter referring to action taken, once it was realized that cold injury might be a problem, is of interest.

The tactical situation, environmental conditions, clothing, footgear, individual susceptibility and incidence of cold injury are discussed for the various operational theatres. The inadequacies of earlier socks and shoes are mentioned, with the reminder that too tight a fitting or lacing is a frequent factor. An attempt is made to correlate the changes with types of clothing of the various armies. The nature of injury varies with climatic conditions, each with its characteristic manifestations. These are all well outlined but probably one of the more fascinating is the account of the infrequently recorded cold injury in the tropics, or tropical immersion foot. It is still not known at what temperature level cold injury can occur when it is associated with long exposure, fatigue, insufficient food, and combat stress. Certainly it does appear in relatively warm weather with temperatures not much below 50° F.

The chapters dealing with pathogenesis, pathological process and clinical picture are well done and will be of exceptional interest to the clinician dealing with such cases. The theories of Lewis, Kreyberg and Ariev are reviewed, as are the various studies of cytological changes in the different tissue components. The book can be highly recommended for all service medical officers who might be called upon to advise on or plan for evacuation and treatment of such casualties. A careful study of the book will make one realize all the variables in these conditions and how such factors as walking after injury, opportunity to change socks, rest, or change of position may greatly affect the outlook for the afflicted soldier. Various stages of trenchfoot are well illustrated by many excellent plates, in this section as elsewhere.

In the last year of World War II, the treatment of cold injury was more or less standardized according to principles set forth in a War Department Technical Bulletin, a copy of which appears as an appendix in this book. Of interest in the light of current concepts and practices are some of the earlier methods used both overseas and at home. The thought that has gone into these conditions and the various forms of therapy is an indication of the complexity of the problem.

In summarizing the 90 pages devoted to the epidemiology of cold injury, the authors state that it is evident that "the causation of cold injury is an intricately woven fabric of agent, host and environmental factors". They do an admirable job in analyzing all these variables.

EXTERNAL COLLIMATION DETECTION OF INTRACRANIAL NEOPLASIA WITH UNSTABLE NUCLIDES. G. M. Shy, R. B. Bradley and W. B. Matthews, Jr., Bethesda, Maryland. 144 pp. Illust. E. & S. Livingstone Ltd., Edinburgh and London; The Macmillan Company of Canada Limited, Toronto, 1958. $6.75.

After a brief historical chapter, this monograph plunges into detailed discussion of the instrumentation of external brain scanning. Although the literature is thoroughly covered and quoted, the data presented are largely those found by the authors in their own studies at the National Institute of Health. Chapter four, on scintillation spectometry, was written by J. E. Francis, P. R. Bell and C. C. Harris of the Oakridge National Laboratory whose "medical spectrometer" is incorporated in the apparatus described.

The double detector unit fitted with focusing "sensitive volume" collimators was designed to be used both for anisotropic sources such as copper-64 and arsenic-74 or isotropic sources, the commonest of which is iodine-131. However, most of the clinical studies described were performed with iodine-131 as iodinated human serum albumin, each detector used independently as a sensitive volume device. A double pen recorder serves to reveal difference in count rate between the two detectors.

The clinical findings are divided into six groups, and preceded by a careful analysis of normal scans and abnormal scans. The chapter on normal scans is well written; however, the treatment of abnormal scans is weighted by the rather unusual condition of a metastatic thyroid carcinoma which lends itself to the use of ordinary radioactive iodide.

The clinical findings would have been better treated in terms of pathology in each area rather than on the basis of area alone, each given one chapter. Chapter twelve given to the lesions of the posterior fossa includes an excellent table, summarizing the scan recordings and the pathology as ultimately determined. The reviewers believe that the other areas should have been treated in the same way. The book is well illustrated with colour plates of tumours and black-and-white reproductions of scans.

The summary reveals that 179 successive scans were used in the study, 106 of which came to a confirmed diagnosis. Of these 92 were correct, 12 falsely negative and two falsely positive.

A limited group of scans was subjected to a detailed analysis of the counts per square inch with a view to using total activity as a means of localizing intracranial lesions. It is concluded that the statistical analysis adds little to the visual display as seen in the dot patterns.

This volume is another significant contribution to the technique of diagnosing and localizing brain tumours by external scanning.

(Continued on page 601)

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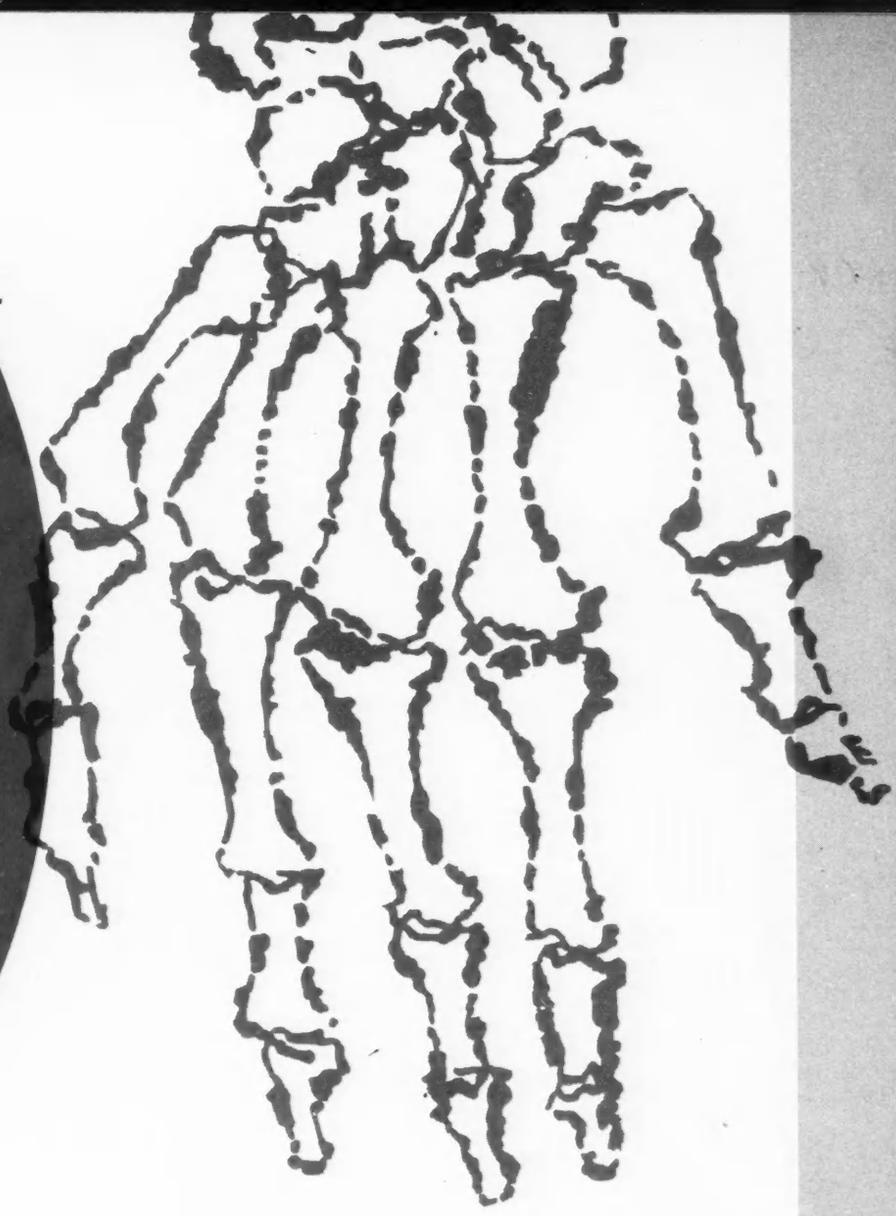

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(Continued from page 598)

LIVER-BRAIN RELATIONSHIPS. Ian A. Brown, Department of Neurology and Psychiatry, University of Minnesota, Minneapolis. 198 pp. Illust. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1957. $7.25.

This provocative monograph written by a neurologist is of interest to the internist, surgeon and research worker. It comprises a clinical analysis of 82 cases of hepatic disease (42 with coma and 40 without coma), a clinical classification and a discussion of some of the relationships that exist between the liver and brain.

The clinical data contain much important information. For example, two-thirds of the patients without coma had symptoms and signs of neurological disorders. Contrary to expectations, patients with alcoholic cirrhosis had less neurological involvement than non-alcoholic cirrhotics. The author suspects that in alcoholic states neurological involvement may be due to hepatic disturbances which the present inadequate liver function tests cannot detect. There was no important difference as regards symptoms or laboratory signs of liver disease between patients with coma and those without coma.

There is a discussion of coma secondary to porto-caval shunting which includes the role of ammonia metabolism in the liver-brain relationship. Hepato-lenticular degeneration is described in fascinating detail. The amazingly close relationship between liver and brain damage in this peculiar derangement of copper and amino acid metabolism attests to the probable importance of the liver-brain relationship in other conditions in which one or other organ is involved.

Postmortem examination of 42 brains failed to reveal specific pathological changes in patients with hepatic coma.

In the final chapter, brain metabolism is discussed under such headings as the blood brain barrier, cerebral blood flow, fluid and electrolyte balance, trace elements (Cu, Fe, Zn, etc.), amino acids, porphyrins, carbohydrate and lipid metabolism, all of which are affected by liver function. Here the author attempts to hurry through the pertinent biochemical and physiological literature. The result is a smattering of what sometimes appears to be contrary or unrelated information. While the imperfect state of our present knowledge in part accounts for the author's difficulties, this section of the blood deserves more thorough treatment.

The book *in toto* has an important impact. It conveys the tremendous significance of the liver-brain relationship, its complexity, and the need for further biochemical studies of liver and brain metabolism.

CLINICAL RADIOLOGY OF ACUTE ABDOMINAL DISORDERS. B. S. Epstein, Long Island Jewish Hospital, New Hyde Park, New York. 352 pp. Illust. Lea & Febiger, Philadelphia; The Macmillan Company of Canada Limited, Toronto, 1958. $15.00.

The title of this volume is misleading and in the reviewer's opinion unfortunately so, in that it does not indicate the wide scope of the subject matter, which not only includes the acute abdomen and those lesions which may require urgent treatment but is an excellent review of lesions of the entire gastro-intestinal tract.

The subject matter is very well organized and is divided into four main chapters. The first deals with congenital disorders, the second with neoplastic diseases; the third with inflammatory disorders, parasitic and granulomatous diseases, collagen disturbances, metabolic disturbances and vascular disorders; and the fourth chapter with traumatic disorders, foreign bodies and the effects of drugs. The text is profusely illustrated with excellent reproductions of x-rays in original negative densities. This adds greatly to the value of the text.

Another feature of this text, which will appeal greatly to the student and to the practising radiologist, is that the bibliography is arranged by subjects; that is, each condition described is followed by an excellent bibliography. The chapter on congenital disorders is exceptionally well done and of itself justifies publication of the book. The author commences with an excellent description of the embryological development of the gastro-intestinal tract and follows on from this to detailed consideration of all of the common and many of the uncommon lesions discovered in childhood and in later adult life, which arise on a congenital basis. The other chapters are also very well done, and the reviewer considers this an excellent text for quick, ready reference to lesions of the gastro-intestinal tract. The bibliography, arranged as it is, gives a ready reference for further reading.

THE CERVICAL SYNDROME. Ruth Jackson, University of Texas, Dallas, Texas. 197 pp. Illust. 2nd ed. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1958. $7.25.

This second edition of Dr. Jackson's excellent monograph on neck pain is somewhat larger and much better illustrated than the first. The importance of cervical nerve root pressure caused by osteophytes growing from the lateral intervertebral joints (of von Luschka) is very clearly described, and illustrated by excellent radiographs. The rarity of a true intervertebral disc protrusion in the cervical area is also emphasized. In a new section, the role of the whiplash injury in the etiology of neck pain is outlined.

Most physicians will envy Dr. Jackson's success in treating these trying problems. While her method of intermittent heavy cervical traction seems somewhat empirical, the results are apparently gratifying. The rarity with which these cases need to be operated upon is emphasized.

This book is a valuable addition to the libraries of orthopædists, neurosurgeons and those interested in medico-legal problems where whiplash injuries are involved. The publishers are to be complimented for the considerable improvement in the quality of this volume: all the photographs are right way up and correctly labelled, and located reasonably closely to the text which describes them.

FROM WITCHCRAFT TO WORLD HEALTH. S. Leff and Vera Leff. 236 pp. Illust. The Macmillan Company, New York; Brett-Macmillan Ltd., Galt, Ont., 1958. $4.50.

As a bird's eye view (a very rapid bird) of the progress of medicine, this book has the disadvantage of putting too much into too little space. The pictures of course help a great deal. They are well chosen, but on the whole one gets little but the expression of an optimistic outlook for the eventual accomplishment of world health. But this can hardly be "within a generation or two".

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MEDICAL FILMS

CONTINUING the listing of available films on medical and related subjects, we list below additional films. The films are held in the National Medical and Biological Film Library and are distributed by the Canadian Film Institute, 142 Sparks Street, Ottawa, Ontario. The evaluations have been prepared by Canadian specialists in the subjects of the films, under the Medical Committee of the Scientific Division of the Canadian Film Institute, which is headed by Dr. G. H. Ettinger.

PHYSIOLOGY

The Properties of Acetylcholine—1946; Sound; Colour; 20 minutes.

Produced by Film Producers' Guild, for Imperial Chemical Industries Limited. Made at the Department of Pharmacology, Oxford University (Professor J. H. Burn).

Description.—An instructional film, illustrating Sir Henry Dale's classical experiments demonstrating the physiological properties of acetylcholine.

Appraisal (1949).—An excellent film, highly recommended as a teaching film for all medical students; also suitable for postgraduate medical audiences. Photography, voice and over-all presentation are excellent. Even though the experiments shown are Dale's classical ones, the film gives an excellent review of the actions of the drug. *Unsuitable for non-medical audiences.*

Availability.—National Medical and Biological Film Library ($3.00). For purchase apply to Publicity Department, Imperial Chemical (Pharmaceuticals) Limited, Fulshaw Hall, Wilmslow, Manchester, England.

William Harvey and the Circulation of the Blood—1928; Silent; B & W; 48 minutes.

Produced by the Royal College of Physicians, London, England. Technical Advisers: Sir Thomas Lewis and Sir Henry Dale.

Description.—An instructional-historical film, re-enacting William Harvey's experiments demonstrating the circulation of the blood.

Appraisal (1947).—An interesting historical film, giving an excellent review of Harvey's experiments and showing their relation to the views held at that time. Of use in exemplifying the scientific method. Recommended for medical students in the pre-clinical years, pre-medical students and nurses, and suitable for other professional medical groups and general scientific audiences. *Restricted to those engaged in medical and scientific studies.*

Availability.—National Medical and Biological Film Library ($4.50). For purchase apply to the Royal College of Physicians, London, England.

The Work of the Kidneys—1940; Sound; B & W; 11 minutes.

Produced by Erpi Classroom Films (now Encyclopædia Britannica Films Inc.). Technical Advisers: Dr. A. J. Carlson *et al.*, University of Chicago.

Description.—An instructional film, demonstrating the mechanism of urine formation and the control of urination, and the function of the kidneys.

Appraisal (1945).—A clear presentation, using well-established methods and fundamental ideas; controversial theories are avoided. There is a tendency to give simple analogies unnecessary to groups which know something of the subject, although at the same time technical language and demonstration methods may be difficult for an untrained audience to follow. Considered to have definite value as an adjunct to teaching in high schools, colleges and schools of nursing, as well for interested lay groups.

Availability.—National Medical and Biological Film Library ($1.00). Purchase (in Canada) from General Films Limited, 1534-13th Avenue, Regina, Sask.

PSYCHOLOGY AND PSYCHIATRY

Activity Group Therapy—1950; Sound; B & W; 52 minutes.

Produced by Campus Film Productions, for the Jewish Board of Guardians, New York City, and supervised by S. R. Slavson, Director of Group Therapy.

Description.—An illustration of activity group therapy in the treatment of emotionally disturbed and socially maladjusted pre-adolescent boys. The film presents excerpts from a motion picture record, taken over a two-year period (by hidden cameras and microphones), of the development in activity group therapy of such 10- and 11-year-old boys.

Appraisal (1950).—An excellent film. Recommended for specialists in psychology and psychiatry. Suitable also for medical students and other professional audiences interested in the subject. Presentation is clear, with accurate and stimulating commentary. *Distribution is restricted to professional audiences.*

Availability.—National Medical and Biological Film Library ($7.50). Purchase from Columbia University Educational Films, 413 West 117th Street, New York 27, N.Y.

Animal Studies in the Social Modification of Organically Motivated Behavior—1938; Silent; B & W; 12 minutes.

Produced by Dr. O. H. Mowrer, Department of Psychology, Institute of Human Relations, Yale University.

Description.—A record-instructional film showing a few of the many ways in which the behaviour of hungry rats can be modified according to the nature of the prevailing social situation.

Appraisal (1946).—A reasonably good film, recommended for medical students, students in psychology, specialists in psychology and psychiatry, and general scientific audiences. Suitable for interested adult and high-school groups. Clearly presented except for latter part where movements of hooded rats are rapid and confusing.

Availability.—National Medical and Biological Film Library ($1.50). Purchase from Psychological Cinema Register, Pennsylvania State University, State College, Pa.

A Case of Aphasia—1939; Sound; B & W; 15 minutes.

Produced by A. H. Leighton, M.D., Spring Grove State Hospital, Maryland.

Description.—This instructional-record film presents the psychiatric examination of a case of amnestic or nominal aphasia. The patient is a 53-year-old male who suffered a slight hemiplegia and aphasia several months before the film was made. The paralysis largely cleared but the aphasia persisted.

Appraisal (1946).—A fairly treated, clearly presented and up-to-date film. Recommended for senior medical students, interns, psychiatric nurses and psychiatric specialists. *Unsuitable for non-medical audiences.*

Availability.—National Medical and Biological Film Library ($2.30). Purchase from Psychological Cinema Register, Pennsylvania State University, State College, Pa.

Convulsive Shock Therapy in Affective Psychoses—1944; Silent; B & W; 18 minutes.

Produced by Dr. A. E. Bennett, Bishop Clarkson Memorial Hospital, Omaha, Neb.

Description.—This record-instructional film illustrates favourable results obtained with convulsive shock therapy in terminating severe depressions in mid-life and pre-senile depressions.

Appraisal (1945).—Recommended for students of psychiatry and is suitable for showing to psychiatric specialists. There is some over-emphasis of metrazol-curare therapy, since this procedure is now obsolescent; the film is otherwise up-to-date. *Unsuitable for non-medical audiences.*

Availability.—National Medical and Biological Film Library ($1.50). Purchase from the Psychological Cinema Register, Pennsylvania State University, State College, Pa.

(Continued on page 604)

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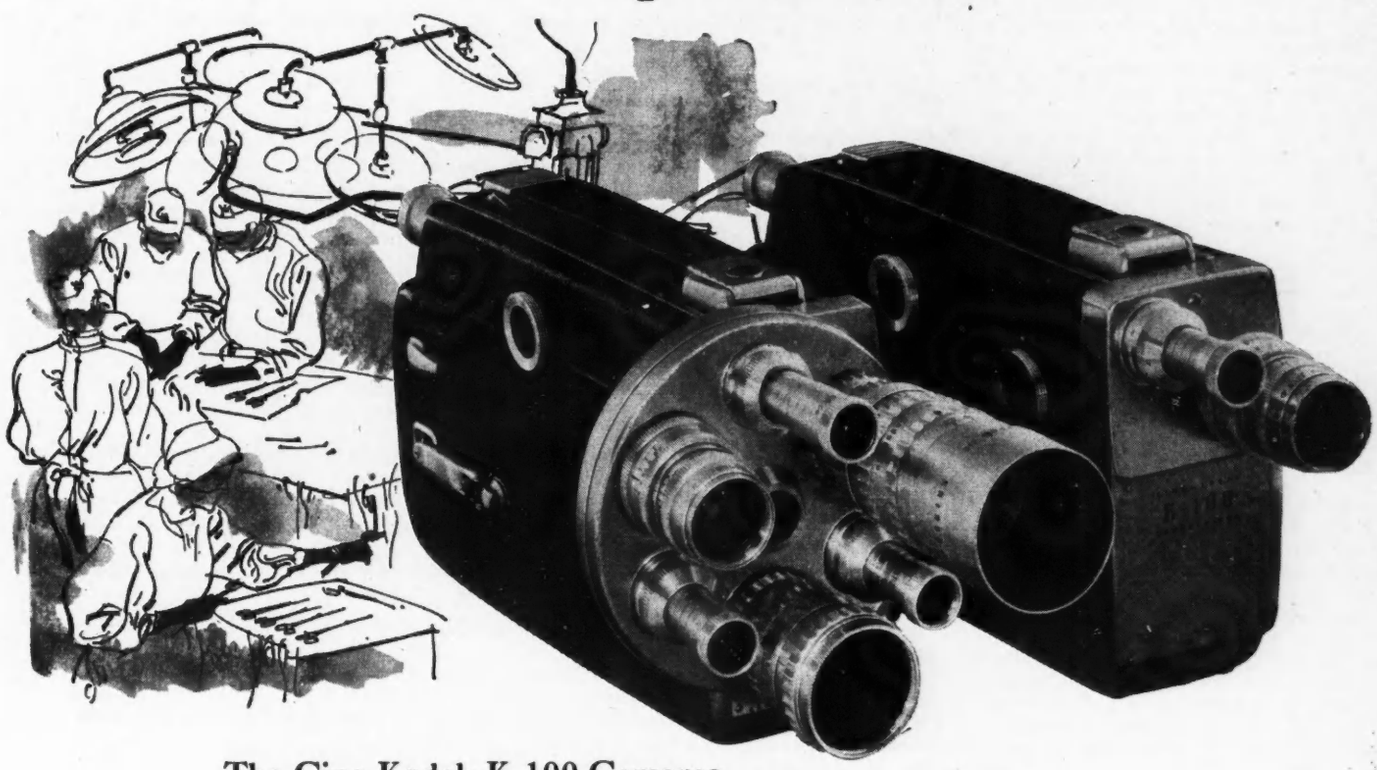

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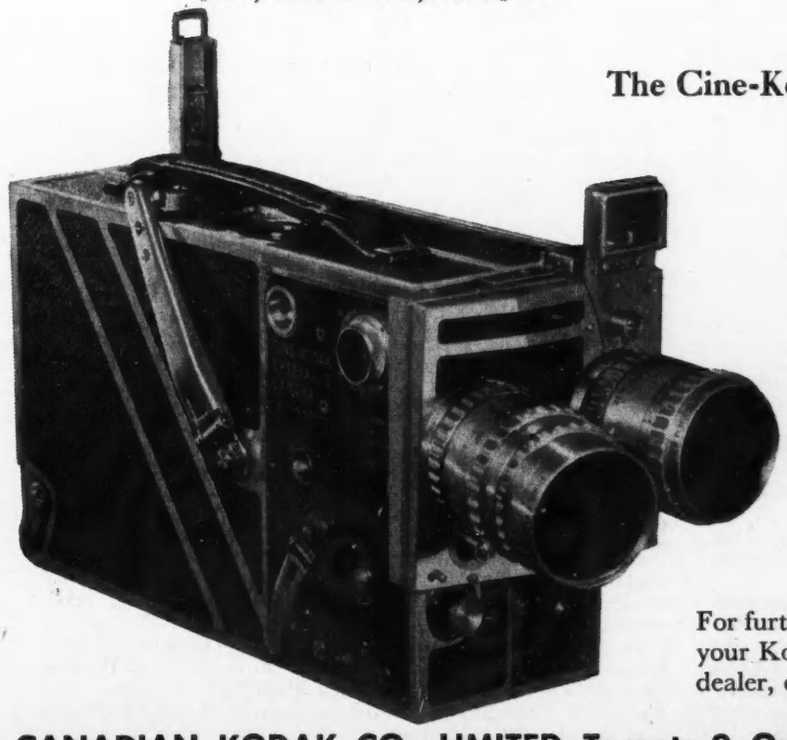

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(Continued from page 602)

Depressive States: I—1951; Sound; B & W; 12 minutes.

Produced by the National Film Board of Canada, for the Department of National Health and Welfare. Technical advisers: George E. Reed, M.D., and Heinz Lehmann, M.D., Verdun Protestant Hospital, Montreal, Que.; Charles G. Stogdill, M.D., Department of National Health and Welfare.

Mental Symptoms series, No. 6.

Description.—An instructional-record film, presenting a clinical demonstration of some manifestations of the agitated form of severe depression. A psychiatrist outlines the characteristic symptoms of the depressive state. The patient is then interviewed.

Appraisal (1952).—A good demonstration of the agitated depressive state. Should be very useful in demonstrating the condition to medical students and nurses where an actual clinical presentation is difficult or otherwise undesirable. Suitable also for general medical audiences and professional groups such as psychiatric social workers and psychologists. *Unsuitable for non-professional audiences.*

Availability. — National Medical and Biological Films Library ($1.00). Purchase from Distribution Branch, National Film Board of Canada, P.O. Box 6100, Montreal 3, P.Q.

Depressive States: II—1951; Sound; B & W; 11 minutes.

Produced by the National Film Board of Canada, for the Department of National Health and Welfare. Technical advisers: George E. Reed, M.D., and Heinz Lehmann, M.D., Verdun Protestant Hospital, Montreal, Que.; Charles G. Stogdill, M.D., Department of National Health and Welfare.

Mental Symptoms series, No. 7.

Description.—An instructional-record film, presenting a clinical demonstration of some manifestations of the retarded form of depression and of a severe depression which has reached the point of attempted suicide. A psychiatrist reviews the history of each case and interviews the patients.

Appraisal (1952).—A good demonstration of these forms of depression. Should be very useful in demonstrating the condition to medical students and nurses where an actual clinical presentation is difficult or otherwise undesirable. Suitable also for general medical audiences and professional groups such as psychiatric social workers and psychologists. *Unsuitable for non-professional audiences.*

Availability. — National Medical and Biological Films Library ($1.00). Purchase from Distribution Branch, National Film Board of Canada, P.O. Box 6100, Montreal 3, P.Q.

Dominance, Neurosis and Aggression in Cats — 1943; Silent; B & W; 29 minutes.

Produced by Jules H. Masserman, M.D., and Paul W. Siever, M.D., University of Chicago.

Description.—A record film, illustrating the behavioural dynamisms of group dominance and aggression in normal and neurotic cats placed in situations of competition and motivational conflict.

Appraisal (1945).—A good film in this Masserman series, and recommended for specialists in the subject matter and for interested scientific audiences. Suitable for college and university students in psychology and psychiatry.

Availability. — National Medical and Biological Film Library ($3.00). Purchase from Psychological Cinema Register, Pennsylvania State University, State College, Pa.

Drug Addict—1948; Sound; B & W; 33 minutes.

Produced by the National Film Board of Canada for the Division of Narcotic Control, Department of National Health and Welfare, and with the co-operation of the Royal Canadian Mounted Police.

Description.—Presents an over-all account of how the drug traffic operates, how addicts are made and how this grim social evil may be curbed.

Appraisal (1949).—A frank and straightforward portrayal of the whole problem. Produced primarily as an instructional film for law enforcement officers, customs officers, the medical and pharmaceutical professions and other groups concerned with narcotic control. Its circulation is accordingly restricted. An 11-minute abridged version, entitled Pay-off in Pain (French version: Illusions à vendre), is available and is considered more suitable for the general public. *Those wishing to borrow DRUG ADDICT from the National Medical and Biological Film Library must indicate clearly the proposed use and the audience.*

Availability. — National Medical and Biological Film Library ($3.00). Not available for purchase.

The Dynamics of an Experimental Neurosis—1941-44; Silent; B & W; 74 minutes.

Produced by Jules H. Masserman, M.D., University of Chicago.

Description.—A four-part film, illustrating, in cats, the dynamics of experimental neurosis and therapeutic methods used in alleviating the neuroses. Each part is mounted on a separate reel (running time 15-18 minutes), and may be shown separately. *Part I:* Conditioned Feeding Behavior and Induction of Experimental Neuroses. *Part II:* Effects of Environmental Frustrations and Intensification of Conflict in Neurotic Cats. *Part III:* Experimental Diminution of Neurotic Behavior in Cats. *Part IV:* Active Participation in Establishing More Satisfactory Adjustment.

Appraisal (1946).—This is the basic film in the Masserman series on experimental neuroses. Recommended for specialists in the subject matter and for trained scientific audiences; also suitable for college and university students concerned in the subject.

Availability. — National Medical and Biological Film Library ($1.50 each part). Purchase from the Psychological Cinema Register, Pennsylvania State University, State College, Pa.

The Dynamics of Competition in Cats — 1944; Silent; B & W; 14 minutes.

Produced by Jules H. Masserman, M.D., University of Chicago.

Description.—A record film, illustrating the patterns of co-operation, conflict, dominance and active and passive parasitism which develop in cats placed in a manipulative feeding situation.

Appraisal (1945).—A good film in the Masserman series. Recommended for college and university students in psychology and psychiatry, and for specialists in these fields. Also suitable for interested scientific audiences.

Availability. — National Medical and Biological Film Library ($1.50). Purchase from Psychological Cinema Register, Pennsylvania State University, State College, Pa.

The Effects of Morphine on Learned Adaptive Behavior and Experimental Neurosis in Cats — 1942; Silent; B & W; 17 minutes.

Produced by Jules H. Masserman, M.D., and A. Wikler, M.D., University of Chicago.

Description.—This record film illustrates the modification of conditioned behavioural response in animals by morphine.

Appraisal (1945).—A good film in the Masserman series on experimental neuroses. Recommended for specialists in the subject matter, and suitable for college and university students in psychology and psychiatry, and for interested scientific audiences.

Availability. — National Medical and Biological Film Library ($1.50). Purchase from the Psychological Cinema Register, Pennsylvania State University, State College, Pa.

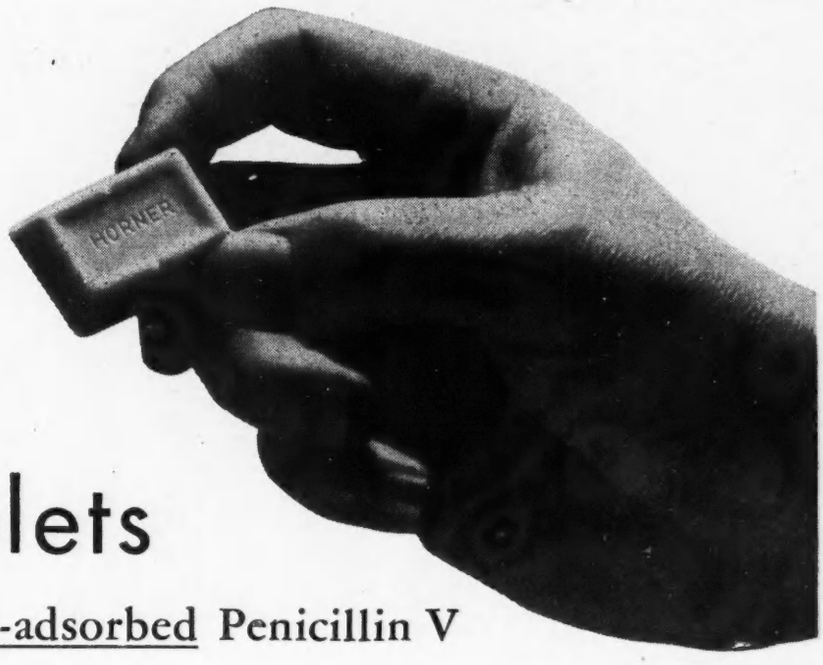
Electronarcosis—A Treatment for Schizophrenia — 1943; Silent; Colour; 18 minutes.

Produced by the California Institute of Technology and the Los Angeles County General Hospital.

Description.—An instructional-record film, demonstrating electro-narcosis as a treatment in certain mental disorders.

Appraisal (1945).—The film is up-to-date and clearly presented, although some indication of the value of this technique as contrasted with other therapies would have been advisable. Recommended for specialists in psychiatry. Suitable for senior medical students and postgraduate students in psychiatry. *Unsuitable for non-medical audiences.*

Availability. — National Medical and Biological Film Library ($2.00). For purchase apply to the joint producers: California Institute of Technology, Pasadena, California, and Dr. G. N. Thompson, Los Angeles County General Hospital, Los Angeles 33, California.



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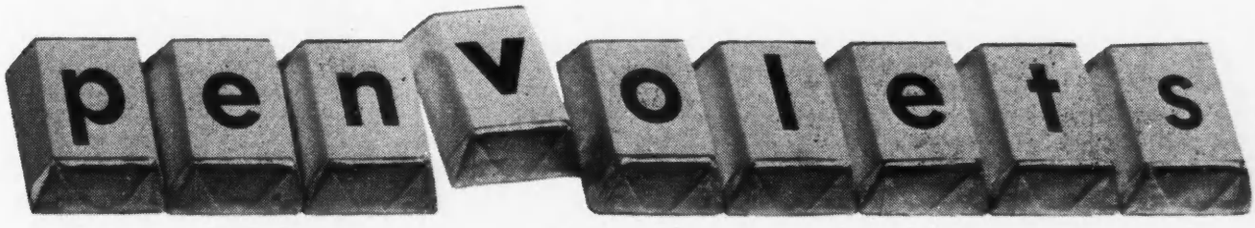

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MEDICAL NEWS *in Brief*

(Continued from page 555)

XYLOSE TOLERANCE TEST AS A MEASURE OF INTESTINAL ABSORPTION

The xylose tolerance test was examined by Findlay and Wightman (*Ann. Int. Med.*, 49: 1332, 1958) in normal controls and in patients receiving cortisone but with no apparent gastro-intestinal disease, in patients with diarrhœa without steatorrhœa, and in patients with the malabsorption syndrome. Twenty-five grams of D-xylose dissolved in 500 ml. of water is given to the fasting individual after obtaining a blood sample, and hourly blood xylose levels are determined and renal excretion measured for five hours, during which the individual is confined to bed. In 25 normal people the test gave a response which was reproducible and not altered by administration of cortisone. In active, untreated idiopathic sprue in adults, the blood and urine xylose levels are low throughout the test and are elevated significantly during successful treatment. In relapse, the abnormality of the xylose test again becomes evident. In spontaneous remission the test response is normal. In untreated secondary steatorrhœa, the result was more frequently normal than abnormal. It is believed that the xylose test is useful in assessing the effects of treatment and may be of diagnostic value as well.

OSSIFYING BRONCHIAL ADENOMA

Ossification has been reported to occur in some bronchial adenomata and this finding has been used in the past to support the theory that these tumours are "mixed" in origin. Of 63 adenomata resected by Sir Clement Price Thomas (*Thorax*, 13: 286, 1958) only three were found to contain widespread ossification. Price Thomas and Morgan were able to find 17 other case reports of ossifying bronchial adenomata in the literature, and comment on the relative frequency of ossification in these tumours when compared with the rarity of ossification of tumours in other organs.

Discussing the conditions under which pathological ossification can

(Continued on page 48)

UNIVERSITY OF TORONTO

Faculty of Medicine

Division of Postgraduate Medical Education

COURSE IN RADIOACTIVE ISOTOPES

An introductory course in the Use of Radioactive Isotopes as Tracers and Therapeutic Agents will be given in the University of Toronto, May 19th to 29th, (inclusive) 1959. The course is designed for medical and biological scientists who are already working with isotopes in the laboratory or clinic or who are preparing themselves for work in this field.

The fee for the course is $150.00 (Canadian Funds). For further information write the Division of Postgraduate Medical Education, Faculty of Medicine, University of Toronto. Applications for admission to the course should be made before April 20th, 1959.

ADVANCED GRADUATE COURSES

The Faculty of Medicine of the University of Toronto offers advanced graduate courses in Medicine, Surgery and Obstetrics and Gynaecology, to be held over a six weeks' period, from August 17th to September 26th, 1959.

These are full time courses and will be given for a minimum of ten and a maximum of twenty-five students in each group.

The fee for the course is $225.00 (Canadian Funds). For further information write the Division of Postgraduate Medical Education, Faculty of Medicine, University of Toronto. Applications for admission to the course should be made by June 10th, 1959.

MEDICAL NEWS *in brief*

(Continued from page 47)

occur, they quote the argument advanced by Policard and Leriche that bone belongs to the connecting or supporting tissues derived from mesenchyme. It is thus possible that any tendon, cartilage or adipose tissue could form bone under appropriate conditions. Necrosis and the presence of calcium are such conditions which can occur in bronchial adenoma, and the presence of cartilage affords a proper medium for ossification.

ETIOLOGICAL SIGNIFICANCE OF EMOTIONAL FACTORS IN ONSET AND EXACERBATIONS OF MULTIPLE SCLEROSIS

A review of the literature on the association of the onset of multiple sclerosis (MS) or its exacerbation with emotional stress and the evidence culled from some 60 papers published over a period of almost a century is considered by Philippopoulos, Wittkower and Cousineau (*Psychosom. Med.*, 20: 458, 1958) to be contradictory.

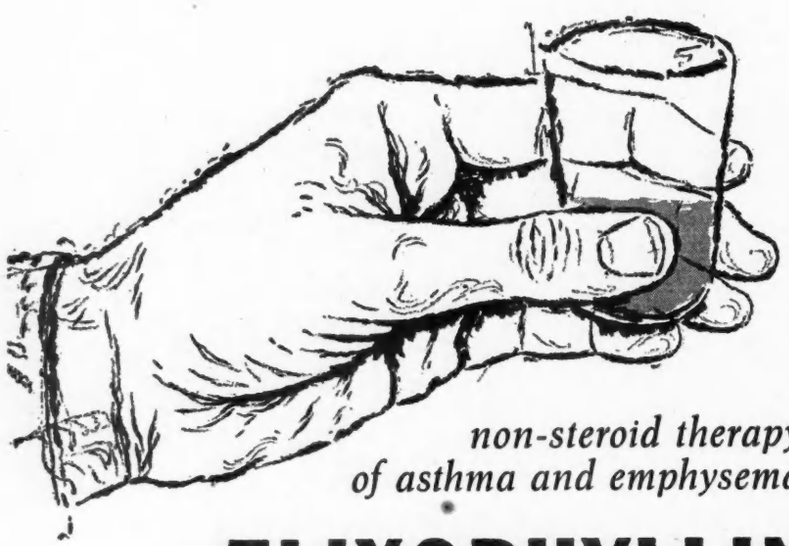
Their preliminary study attempts to answer the following questions: (1) What kinds of persons develop multiple sclerosis? Is there any uniformity of premorbid personality structure? (2) How often do emotional disturbances precede the onset of MS and/or its exacerbations and relapses? (3) Is it possible to define a specific psychodynamic constellation related to the onset of the disease and of its exacerbations and relapses? Forty patients with multiple sclerosis aged 20-45 were compared with a control group matched for age, ethnic origin, educational level, occupational status, and social background. The findings are listed under premorbid personality (which includes education, sexual adjustment, social adjustment and occupational adjustment), personality structure, psychiatric classification, psychological summary, life situation at onset, and relevance of emotional factors to exacerbations and relapses. The authors submit a hypothesis that in some children there is a greater constitutional need for lipoids, enzymes and vitamins which are required for adequate myelinization of nerve-fibres. Deficiency in supplies of these and other substances may be due to hereditary, developmental or environmental factors occurring in infancy of the patients who later develop MS. "Enuresis, defective coordination, slurred speech, dissociated eye movements, and spastic ataxic movements are all features noted in infants and may be regarded as related to *psychophysiological regression* if they appear in adults."

A common feature in almost all the MS patients was a morbid anxiety which often antedated the onset of the disease and frequently reached its peak before some attacks. Emotional factors alone or combined with other stressful experiences were most commonly blamed by the patients for causing their disease. This series confirms that emotional factors play a part in MS and may precipitate its onset as well as exacerbations and relapses.

—

CARDIOVASCULAR REHABILITATION

The National Heart Institute of the U.S. Public Health Service has authorized a grant of approximately $200,000 to New York Uni-



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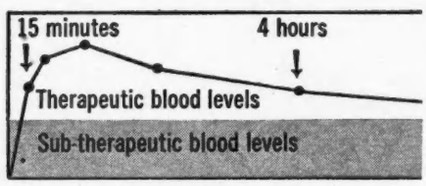
45 cc. *(three tbsp.)* on retiring;
45 cc. *(three tbsp.)* once midway between above doses *(about 3 P.M.)*



After two days of therapy the size of doses should be slightly decreased.
Each tablespoonful contains: theophylline 80 mg., alcohol 3 cc.
Prescription only—bottles of 16 fl. oz.

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**Reprints of these studies on request.*

versity-Bellevue Medical Center, for a five-year study of cardiovascular rehabilitation. The project, which is concerned with early recognition and delaying of coronary heart disease, is under the direction of Dr. Howard Rusk, professor and chairman of the department of physical medicine and rehabilitation, and Dr. M. M. Gertler, cardiologist. Medical statistical data will be collected on three general groups of persons: (a) persons who have not had a coronary attack but are most prone to develop coronary heart disease; (b) persons in the above category but least prone to develop coronary heart disease; (c) persons who have had coronary heart attacks. After classification of individuals falling into these groups, tests concerning the known basic causative factors will be studied.

—

STABILITY OF THE TUBERCULIN REACTION

Although there are many reports in the literature of the frequency of tuberculin reaction conversion, little can be found regarding the frequency with which tuberculin hypersensitivity is decreased or lost. The usual impression seems to be that, once hypersensitivity is acquired, it is rarely lost except during some illness or perhaps in old age. Kunofsky and Katz (*Am. Rev. Tuberc.*, 78: 862, 1958) show that reversion of tuberculin sensitivity occurs quite frequently and indicate that there is a logical pattern to these changes.

Their data were obtained from a study of patients in two schools for mental defectives in the U.S.A. In one school, a 12-year study was made of the effect of exposure to infectious tuberculosis upon the subsequent development of the disease. All patients were tuberculin-tested at the beginning of the study or on admission, and non-reactors were re-tested at six-month intervals, even after conversion of the reaction. Reactors to tuberculin were not re-tested. The complete records of 411 patients who were originally tuberculin-negative but who became reactors were available.

In the second school, subjects were tuberculin-tested in August 1948, as part of a BCG vaccination program. They were Mantoux-tested with first-strength PPD, and non-reactors to this dose were re-tested in 1951 and 1952. Most of these were under observation during the entire four-year period. The testing and reading were done by an experienced physician and an experienced registered nurse.

In the first group, 13% of the original non-reactors developed 4 plus reactions at some time during this study; but, at the end of this study, the percentage was less than 3. Even though every patient was tuberculin-positive at some time, 41% subsequently reverted to negative. Some of these in turn became positive again, so that only 15% of all patients were tuberculin-negative at the end of the study.

In the second group, among reactors to first-strength PPD, almost 8% of those with 3 plus or higher reactions, 16% of those with 2 plus reactions, and 44% with 1 plus reactions became negative to

(Continued on page 50)

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MEDICAL NEWS *in brief*
(Continued from page 49)

this dose during the period of study. Tuberculin reversions were much more frequent among those with lower degrees of tuberculin sensitivity. Thus, about 31% of those with 3 plus reactions reverted to negative, as compared with 58% among 2 plus reactors and 79% among 1 plus reactors.

From the results of this study, it appears that instability is one of the important characteristics of the tuberculin reaction. One of the major causes of this instability is possibly variation in exposure to infectious tuberculosis with corresponding variation in the restimulating effect upon tuberculin sensitivity.

The authors contend that the instability of the tuberculin reaction has an important bearing upon the interpretation of the results of tuberculin test surveys, in that it presents a picture of conditions existing in individuals or groups *only at the time of the survey,* and one not necessarily representative of conditions obtaining previously.

PLEUROPNEUMONECTOMY IN TUBERCULOSIS

In 38 pneumonectomies carried out in a large State sanatorium during a three-year period, the extrapleural plane of dissection was used wherever the lung was firmly fixed to the thoracic wall. In these 38 patients, eight operations were carried out by the total extrapleural method. Four of these eight patients had bronchopleural fistulas associated with empyema. Reporting these cases, Milloy and Langston (*Dis. Chest,* 34: 593, 1958) feel that antimicrobial preparations have permitted operations in a larger number of patients than would otherwise have been the case, and have increased our interest in this technique.

Empyema after pneumonectomy is a more severe complication than that after lobectomy, for in the latter there remains pulmonary tissue that can eventually fill the pleural space. Among those patients who require pneumonectomy for tuberculosis there are a certain proportion who have a pleural effusion, and particularly empyema; it is of the greatest importance to remove all the infected pleura. If this is left in place, it represents a permanent source of contamination for the dead space of that hemithorax. The excision of this peel is more readily accomplished by developing the extrapleural plane as completely as possible at the beginning of the operation, and it is possible to remove the empyema completely without entering its cavity. It is not so important, however, to preserve the integrity of the empyema as it is to remove the entire empyema wall, because the relatively normal surface remaining after dissection in the extrapleural plane can stand a single contamination by empyema fluid, though it may not be able to withstand continuous contamination by residual infected tissue.

From the point of view of technique, the development of the extrapleural plane, if carried out properly, is without danger, and in patients with severe pleural disease, it is often the plane of dissection that can be most easily followed. Furthermore, the surgeon takes less risk of entering apical cavities

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1. The Food Exchange Lists referred to are based on material in "Meal Planning with Exchange Lists" prepared by Committees of the American Diabetes Association, Inc. and The American Dietetic Association in cooperation with the Chronic Disease Program, Public Health Service, Department of Health, Education and Welfare.

near the chest wall if he adds the thickness of the pleura between the lung and the dissecting finger. With this procedure bleeding is minimal, for the vessels in normal tissue retract more readily than those in chronic inflammatory granulation tissue.

—

EFFECTIVENESS OF ANOREXIGENIC AGENTS

Double blind studies of the effectiveness of two anorexigenic agents were conducted by Frazekas and his associates (*Am. J. M. Sc.*, 236: 692, 1958). Phenmetrazine hydrochloride and a placebo were compared in a group of obese, mentally normal subjects, and, in order to obviate so far as possible the influence of suggestion, phenmetrazine hydrochloride, d-amphetamine sulfate, and a placebo were compared in a group of mentally deficient subjects.

In both the mentally alert and mentally deficient subjects, there was a significant reduction of weight with phenmetrazine but no significant change during placebo administration. Subjective side reactions, evaluated only among the mentally normal patients, disclosed no apparent difference between phenmetrazine and the placebo. In the mentally deficient group, the weight loss induced by d-amphetamine sulfate was similar to that obtained with phenmetrazine.

It is suggested that these drugs act primarily in subcortical areas, probably by influencing localized neurohumoral activity. In view of the almost certain influence of the cortex and spinal cord, as well as the subcortex, upon appetite, it should not be surprising that there is considerable variability in individual response to anorexigenic agents.

—

NATIONAL HEART FOUNDATION FELLOWSHIPS

Thirteen Canadian scientists have been awarded Fellowships totalling more than $76,000 by the National Heart Foundation of Canada. The awards, first made in 1959 for research of cardiovascular disease, go to medical scientists working in university medical schools and hospitals in seven cities. Awarded on a priority basis by a medical scientific committee, the Fellowships permit new and continued investigations of the causes, effects, treatments and prevention of heart disease. The scientists and the research projects are:

Dr. Don P. MacLeod, Dalhousie University, Halifax, "study of the fundamental causes of abnormal heart rhythms with particular reference to the importance of body salts".

Dr. Samuel J. Shane and Dr. Donald S. Beanlands, Dalhousie University, jointly, "to make comparisons by various methods of the volume of blood flow from healthy and diseased hearts".

Dr. Enid G. Dawson, Institute of Cardiology, Montreal, "investigation of the possible relationship of protein to the development of atherosclerosis".

Dr. Wilfred H. Palmer, Montreal Children's and the Royal Victoria Hospital, Montreal, to study "the effect of heart disease on the mechanism of breathing".

(Continued on page 52)

• *Note personal chart to be filled in by physician and patient. Serves as constant reminder to patient to persist with diet.*

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MEDICAL NEWS *in brief*

(Continued from page 51)

Dr. Bernard I. Weigensberg, McGill University, Montreal: for "continued studies of chemical factors in the development of atherosclerosis".

Dr. James D. Hatcher, Queen's University, Kingston, "study of the effect on the blood vessels and kidney function of changes in oxygen and variations in temperature".

Dr. Thomas E. Cuddy, University of Manitoba, for "the study of the efficiency of the muscles used in breathing in patients with heart disease".

Dr. Samuel I. Yamada, University of Manitoba, for "further studies in the nature of the control of blood pressure".

Dr. Wm. S. Egerton, University of Saskatchewan, "study of certain problems connected with post-operative effects of open heart surgery using the heart-lung machine".

Dr. Eric C. Elliot, University of Alberta, "the construction and employment of an all-plastic oxygenator and pump and its use in the treatment of surgical shock".

Dr. R. F. Shaner, University of Alberta, "the study of the early development of the heart, both normal and abnormal, as seen in congenital heart disease".

Dr. Gordon F. Dower, University of British Columbia, "the study and development of improved techniques in clinical electrocardiography".

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INTERNATIONAL UNION OF THE MEDICAL PRESS

The International Union of the Medical Press will hold its IVth Congress in Cologne, Germany, July 3 to 5, 1959. The congress will be under the auspices of the Federal Union of German Physicians, and the chairman will be Dr. H. Spatz of Munich. Subjects for discussion will include legal obligations and responsibilities of medical editors, the editors' obligations towards authors, the authors' code of ethics concerning their editorial work, postgraduate medical training in relation to the medical press, and the role of the international medical press in improvement of standards of practice in underdeveloped countries.

The French Union of the Medical Press will report on its work carried out with advertisers for the purpose of providing accurate pharmaceutical information and documentation. There will also be reports by the editor of the *British Medical Journal* on the medical organization as a publishing firm, and by Dr. F. Oeter on practical aspects of publishing a journal for the health education of the public.

—

SYMPOSIUM ON THYROID DISEASES

The University of Oklahoma Medical Center announces a postgraduate course on diagnosis and treatment of thyroid diseases on Monday, May 18 and Tuesday, May 19, 1959. This, the fifth of a series of symposia on surgery, radiology and pathology, will be held at the University Medical Center, Oklahoma City. Guest speakers will include well-known specialists from American centres. There will be two days of lectures, round

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1. The Food Exchange Lists referred to are based on material in "Meal Planning with Exchange Lists" prepared by Committees of the American Diabetes Association, Inc. and The American Dietetic Association in cooperation with the Chronic Disease Program, Public Health Service, Department of Health, Education and Welfare.

table discussion and case presentation. For information, write Office of Postgraduate Education, University of Oklahoma Medical Center, 801 Northeast 13th Street, Oklahoma City 4, Oklahoma, U.S.A.

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AMERICAN SOCIETY FOR STUDY OF ARTERIOSCLEROSIS

The American Society for the Study of Arteriosclerosis has merged with the American Heart Association, and become the Council on Arteriosclerosis of the latter. This brings to eight the number of councils now active in the Heart Association's program. The other councils cover such areas as clinical cardiology, cardiovascular surgery, circulation, high blood pressure, rheumatic fever and congenital heart disease, basic science, and community service and education.

The new Council on Arteriosclerosis will hold a scientific session and a symposium as part of the Heart Association's 32nd annual Scientific Sessions in Philadelphia, next October 23-25, followed by an independent Council meeting in November. Officers elected to the new Council on Arteriosclerosis include Dr. J. C. Paterson, London, Ont., Chairman.

—

CHICAGO POST-GRADUATE COURSE IN TRAUMA

The Third Annual Post-Graduate Course in Fractures and Other Trauma will be presented by the Chicago Committee on Trauma of the American College of Surgeons from Wednesday, April 15 to Saturday noon, April 18, 1959, at the John B. Murphy Memorial Auditorium, 50 East Erie Street, Chicago 11, Illinois.

All phases of trauma will be discussed by teachers from medical schools and chiefs of service of hospitals in the Chicago area, as well as guest speakers from other parts of the country.

Illustrated lectures, audio-visual presentations, patient demonstrations and question-and-answer periods will be held. Practically all phases of trauma will be covered: injuries to the head and face; common eye injuries; chest, abdomen and genito-urinary trauma; sprains and intervertebral disc injuries of the spine; injuries of the hand; plastic surgery of the extremities; acute injuries to the blood vessels; tendon and peripheral nerve injuries; burns; laryngeal and tracheal trauma; all types of fractures and dislocations; fractures in children; aseptic necrosis of bone; pitfalls in radiographic examination; and bone grafts.

Registration fee for the course is $75. Residents, interns and students will be admitted free, if a note of identification from chief of service or dean is presented.

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MALAISE IN THE NATIONAL HEALTH SERVICE

In a special article in the *British Medical Journal* (1: 25, 1959) Dr. H. Bathurst Norman makes some pungent comments on the National Health Service. He notes that the change from free enterprise to a monopolistic service in Britain has

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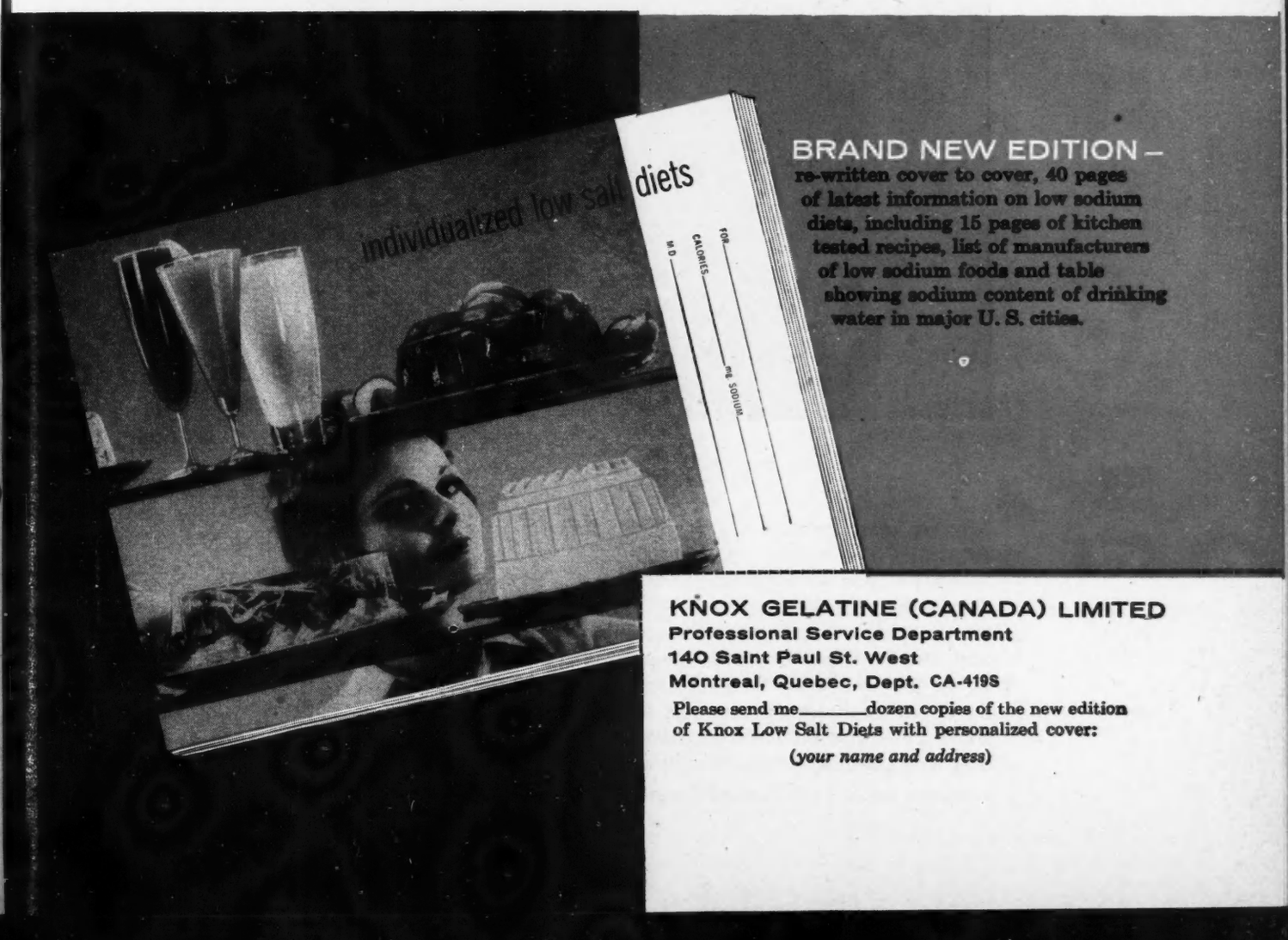
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MEDICAL NEWS *in brief*

(Continued from page 53)

profoundly modified the circumstances of medical work. In the past, the wide individual freedom of action was attractive, but the present burden imposed by authority on the civil servant has become a deterrent. He quotes Clemenceau on professional liberty, "the right to discipline oneself in order not to be disciplined by others". He speaks of the welfare state dragging poor human beings into ever more deadly forms of material comfort, violent destruction, and voluntary slavery.

Dr. Norman suggests that doctors have shown no collective evidence of recognizing the heavy price of freedom, and points out that a safeguard against the results of inflation is obtained by giving a doctor effective control over his own income, widely dispersed over a large number of sources. When the doctor is a public servant, he is the last to obtain relief in times of inflation.

The young general practitioner in the U.K. is now usually tied for the rest of his working life to the place where he first settles, however disagreeable it may be, while his pay is by capitation fee —a system that puts a premium on neglect and a penalty on duty. In the consultant ranks, there are a growing army of angry men, no longer young, competing for a small number of posts and, because of this competition, lacking in *esprit de corps*. Dr. Norman says that the pressing need is for integration between general and specialist practice and for an opportunity once again of promotion "from the floor of the shop".

—

CORONARY ARTERIO-VENOUS FISTULAS

A youth of 17 presented with a continuous "machinery" blowing mid-systolic murmur over the lower precordium. A systolic thrill could be felt and the murmur was obliterated by pressure over the lower hemithorax. The heart was not enlarged and the electrocardiogram was normal. Cardiac catheterization showed the oxygen content of blood from the coronary sinus to be 1.22% volumes more than in the right auricular blood, and a small left to right shunt of 0.8 litre per minute. Pressures in the right auricle, right ventricle and pulmonary artery were within normal limits. The patient had a coronary arteriovenous fistula.

In a brief report, G. J. Aitken of Glasgow (*Scottish M. J.*, 4: 27, 1959) summarizes 16 cases from the literature of similar anomalies. Coronary artery fistula may connect with the right auricle, the coronary veins, the right ventricle or the pulmonary artery. The physical signs are almost indistinguishable from those encountered in patent ductus arteriosus. This may be the reason why a proper diagnosis was reached during life and without thoracotomy in only two cases, according to the literature. It is probable that a wider use of coronary angiography will render this diagnosis easier. As the complications associated with this anomaly are similar to those which may arise with other congenital cardiac lesions, subacute bacterial endocarditis, calcification and pulmonary hypertension must be looked for. It is interesting that

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1. Kirsner, J.B.: J.A.M.A. 166:1727, (April 5) 1958.

the present case together with another one reported in the literature were associated with a congenital defect of the right eye.

—

STRONTIUM 90

Until a few years ago, the medical importance of strontium was more or less limited to its administration in the form of lactate to patients with osteoporosis. It has now attained a position of eminence as a result of radioactive fallout. Among the new methods of determining the uptake by the human body, one of the most recently devised shows considerable ingenuity. The Greater St. Louis Citizens' Committee for Nuclear Information have recently made plans to collect 50,000 deciduous teeth from children in the St. Louis area. This region was selected for survey after reports showed that milk in the area's milkshed contains the highest strontium^{90} levels for 1958.

The data collected so far were derived from determination performed on bones obtained from adults at autopsy. A new light may be cast on the problem, since adults are considered as suffering from acute poisoning whereas children in the age group 0 to 5 years are examples of individuals with chronic poisoning conditions.

The maximum permissible body burdens of strontium^{90} are far from being definitely established. According to a report from Björnerstedt and Engström, "it has been calculated that the skeletal tissues receive a dose rate of 2.6 rem/year (or 7.25 m rem/day) on the average, for a total burden of one μc. of homogeneously distributed strontium^{90}. This assumes a homogeneous dispersion of the Sr^{90} in the 7000 grams of skeletal tissues (the standard man). A body burden of 1 μc. of strontium^{90} is equivalent to 1000 S.U. (sunshine units) or $\mu\mu$c. of Sr^{90} per gram of Ca)". In determining the dose rates of the reactive bone sites the cylindrical geometry of the Haversian system may be used for long bones; however, cancellous bones seem the more important in many respects from content of radioactivity and in this case exact dose calculation is almost impossible to obtain. The different reactive sites or "hot spots" are not homogeneously labelled and show variations in concentration of a factor of 5-10. The present dose of 1 μc. derived from comparison with radium data may have to be lowered to 0.1 μc. instead. However, according to the authors, "in the case of chronic poisoning with Sr^{90} a higher figure than 0.1 μc. is tolerable as a total burden; tentatively the 1 μc. level may be considered to be tolerable". —*Science*, 129: 319, 1959.

—

BRITISH MEDICAL BULLETIN

The latest issue of the *British Medical Bulletin* (Vol. 15, No. 1, January 1959) is devoted to hæmatology. As usual, it is made up of articles from leading authorities in the United Kingdom and maintains a high standard of quality in giving a succinct view of the research in this field in the last ten years. The main topics covered include iron absorption, fetal and abnormal hæmoglobins, hæmoglobin biosynthesis and its variations, folic acid,

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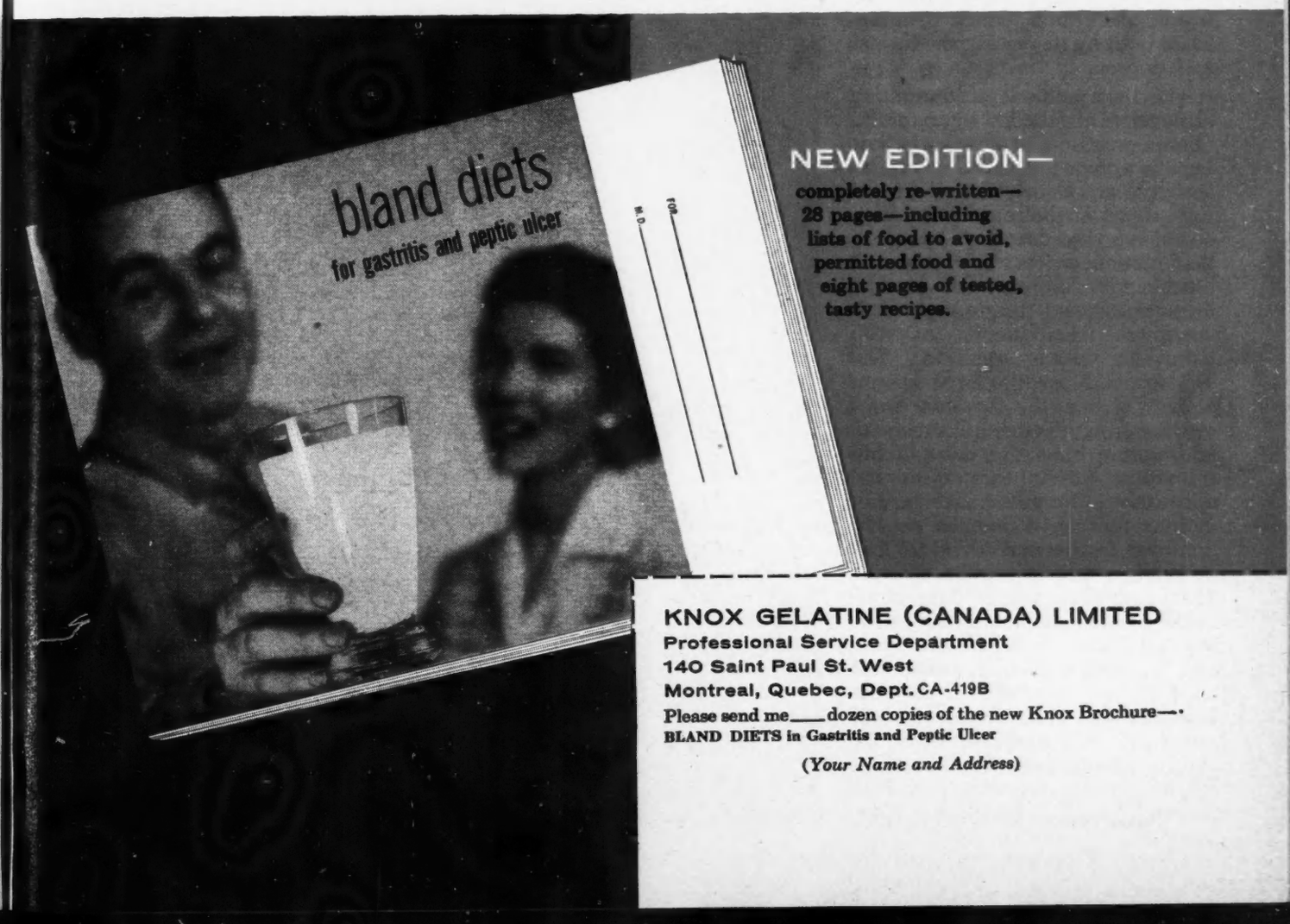


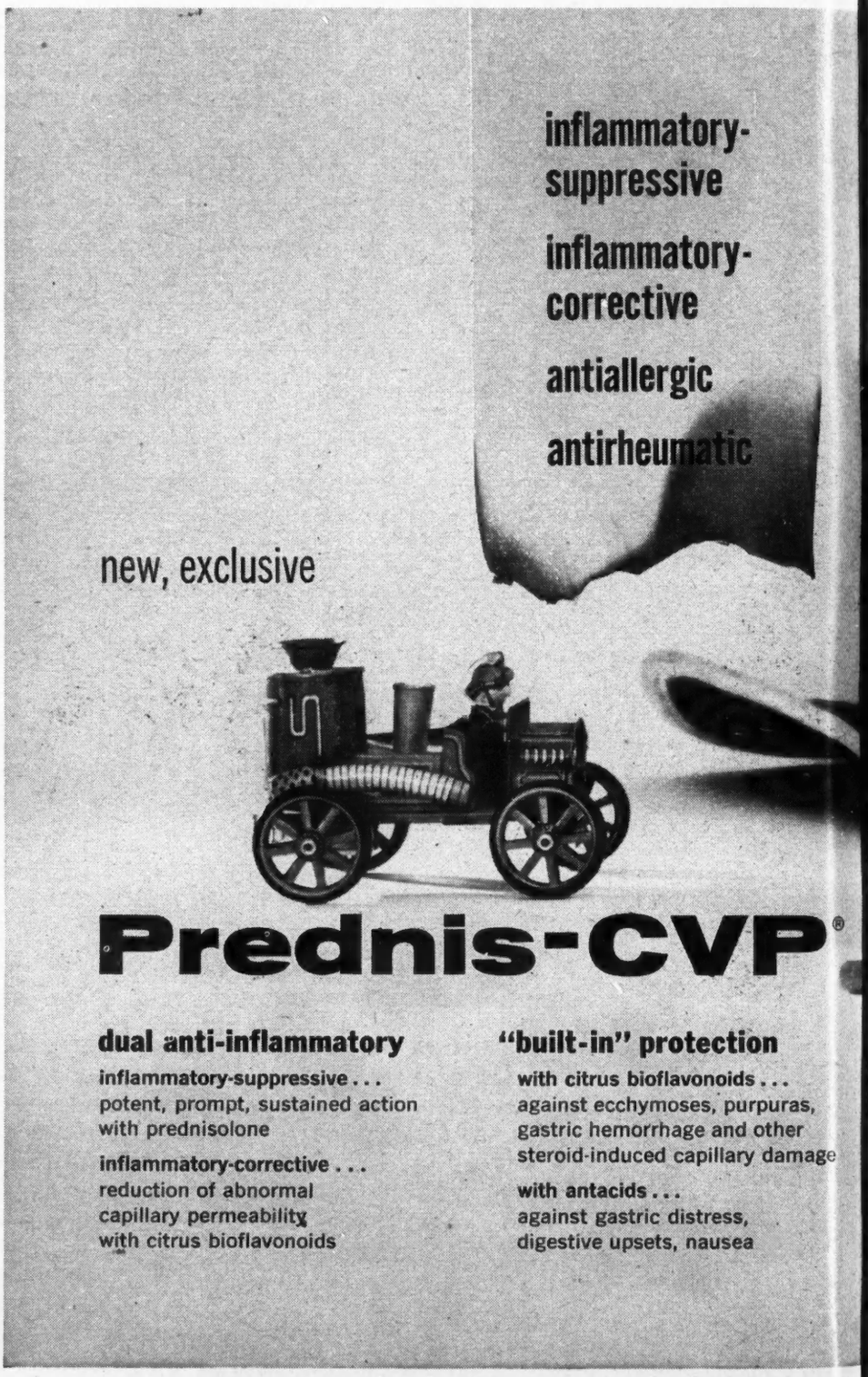
MEDICAL NEWS *in brief*

(Continued from page 55)

radioactive B_{12}, hæmolytic anæmias, bone marrow culture, epidemiology and treatment of leukæmia. It draws freely on the world literature on hæmatology, yet presents a clear synthesis without redundance and in which the important facts stand out, giving to the whole matter an air of apparent simplicity. The general impression gathered from its pages is that most of the progress in hæmatology accomplished since the end of the war may be related to two new research tools, namely radioactive isotopes used as tracers, and paper electrophoresis. It is quite impossible in a few paragraphs to give an adequate account of the contents of this bulletin, which would have to be quoted almost *in toto*. However, among the points of interest which may be gleaned by perusal of the text we are reminded of the enhancing effect of beef on iron absorption, and the fact that patients with partial gastrectomy show no impairment of absorption of iron salts but absorb food iron poorly. The state of iron stores and the rate of erythropoiesis are of major importance in the control of absorption, which is diminished both by increasing the former and depressing the latter.

The four methods of computing absorption of labelled vitamins B_{12} (fæcal excretion, urinary excretion, hepatic uptake and blood or plasma activity) are clearly described. On the subject of the role of folic acid on blood disorder the author of that section writes, "The essential biochemical difference between the megaloblast and the normoblast is unknown." Statements of this nature are salutary reminders. The section on biosynthesis of hæmoglobin shows the various steps starting from glycine and succinate as building blocks in hæmoglobin formation. It appears from the chemistry of abnormal hæmoglobins that no difference can be detected in the two identical half molecules which make up any hæmoglobin molecule. The alterations which characterize the different types of hæmoglobins must rest on such minor structural changes as the disappearance of one negative charge from each half molecule. A comparative figure showing the chemical structure of the number 4 peptides found in hæmoglobins *A*, *S* and *C* illustrates this point very well. The part played by hæmoglobin *F* in thalassæmia, sickle-cell anæmia and some of the mixed syndromes demonstrates the pathological significance of this substance.

In the section on the life history of lymphocytes, the reader is reminded that the relation between the large, medium and small lymphocytes is not known but their appearance and behaviour in the living state suggest that they belong to the same lineage. There is a clear exposition of the method of labelling erythrocytes with radioactive chromium in the determination of their life span, and its application to the hæmolytic syndrome. When evaluating the treatment of chronic leukæmia it is well to remember that "in spite of improvements in radiotherapeutic technique and the introduction of chemotherapy, the outlook for patients suffering from chronic leukæmia has not changed much in the last half century.



Leukæmia is incurable and in recent years the expectation of life appears to have been increased by a few months only. This small increase perhaps reflects the improvement in total care as well as the effect of specific therapy."

In the introduction, Professor Witts says, "To be a hæmatologist nowadays is to inhabit a whole continent of knowledge and to have perhaps only a distant acquaintance with large areas of it. Some divisions of the subject have already become specialties in their own right, and the study of leukæmia or blood coagulation alone is more than enough to occupy a man for life." Nowhere can a more substantial proof of this statement be found than in this present bulletin.

—

INTERNATIONAL HOSPITAL CONGRESS

The Eleventh International Hospital Congress, organized by the International Hospital Federation, will take place in Edinburgh, Scotland, from June 1 to 6, 1959, under the chairmanship of Luigi Colombo, President of the International Hospital Federation. The central theme of the Congress will be "Efficiency methods in the hospital". There will be plenary sessions and group discussions, and the official languages will be English and French. An architectural exhibition on planning of ward units will be organized, and there will be the usual exhibition of hospital equipment. Further information is obtainable from the International Hospital Federation, 6th Floor, 34 King Street, London, E.C. 2, England (except for travel and accommodation, for which applications should be sent to Messrs. Thomas Cook & Son, the official agent).

—

PENICILLIN IN ACUTE RHEUMATIC FEVER AND VALVULAR HEART DISEASE

In an attempt to alter the course of established rheumatic fever and prevent carditis and valvular heart disease, 49 patients with acute rheumatic fever were given large doses of penicillin by Mortimer *et al.* (*New England J. Med.*, 260: 101, 1959). Another group of 48 patients served as controls, being given only aspirin for the first 14 days, as with the group on antibiotic therapy. Both groups were subdivided into groups of eight patients followed up by the same observer, who was unaware of the treatment the patient was receiving. On the 43rd day all the patients in both groups received 1,200,000 units of benzathine penicillin intramuscularly, and this treatment was given at intervals of 5-6 weeks for 10-14 months. At the end of one year the cardiac status was evaluated by the original observer, and an electrocardiogram and chest radiograph were obtained. The results are reported and tables are presented showing the lack of effect of penicillin on temperature, joint symptoms, sedimentation rate, C-reactive protein, heart rate and P-R interval.

In discussing the results of this study, the authors stress that although large doses of penicillin did not cause any significant improvement in the treated group during the acute phase, there was a strik-

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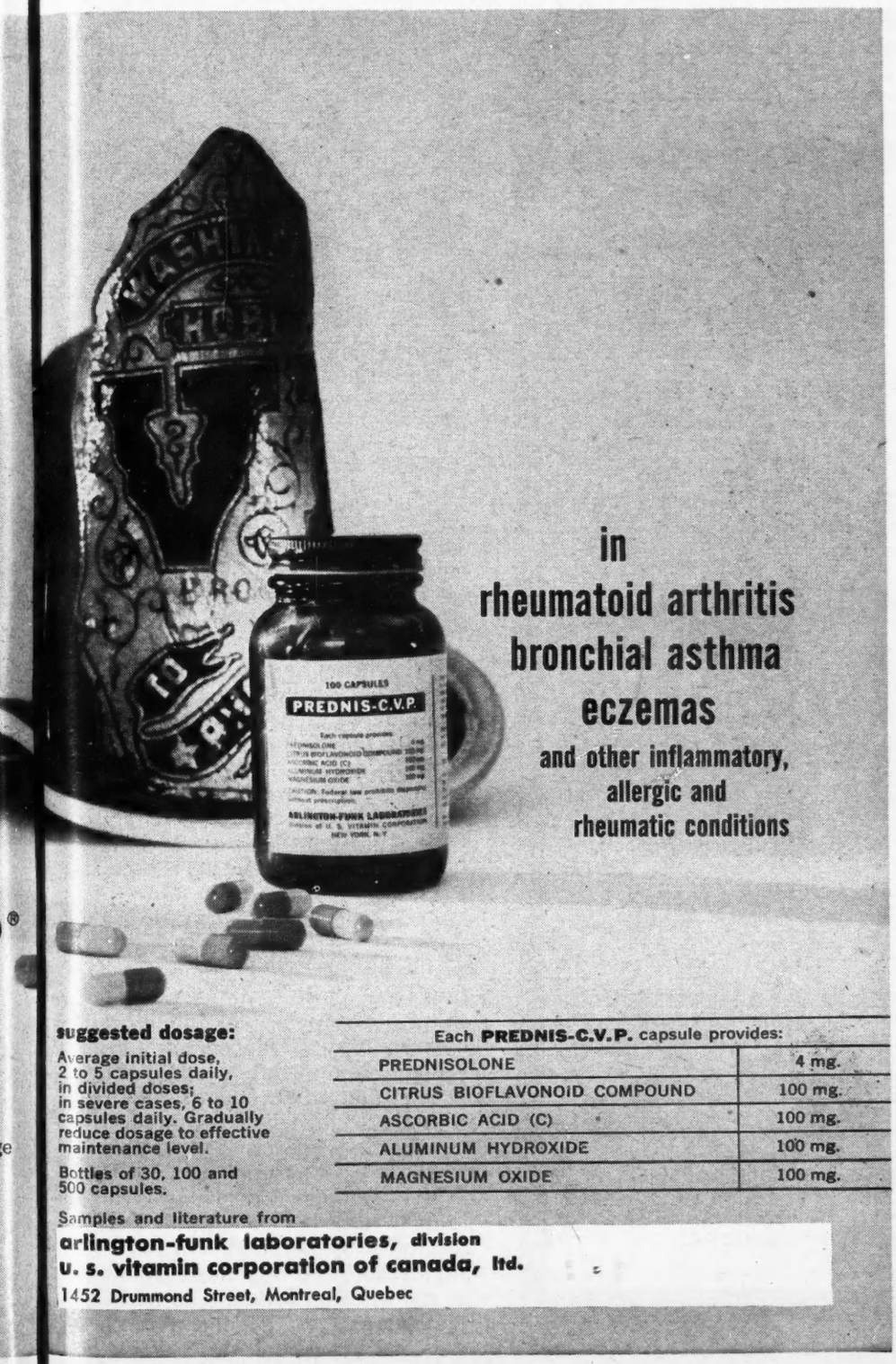

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MEDICAL NEWS *in brief*

(Continued from page 57)

ing reduction in the incidence of valvular heart disease in this group at the end of one year as compared with the controls. Previous studies by this group have suggested that in addition to the antigenic reaction to streptococcal infection the persistence of the carrier state may play a part in the pathogenesis of rheumatic fever. The possibility that rheumatic valvulitis is a form of bacterial endocarditis prompted the present study, and this is consistent with the results obtained. If, however, the more widely held view is correct that the streptococcus operates in some indirect fashion, one has to assume that valvular heart disease may be dependent in part on continuing activity of living streptococci, hence the favourable effect of large doses of penicillin on the long-term outcome of rheumatic fever.

—

CARCINOIDOSIS

Jan Waldenstrom of Malmo, Sweden, delivered the 4th Annual Memorial Lecture of the American Gastroenterological Association in May 1958 in Washington, D.C. In this lecture he described briefly the history of the discovery of serotonin, its identification and isolation by Erspamer in Italy and by Page and Corcoran in the U.S.A., and its role in causing the peculiar flushing in cases of carcinoid tumours. Since Waldenstrom and Pernow described their first two cases of carcinoidosis and Swiss authors published their report of three cases of carcinoidosis associated with pulmonary stenosis, new cases have been reported from many sources.

Of 156 malignant carcinoid tumours the primary site was in the ileum in 94, in the jejunum in 18 and in the appendix in 23 of the cases. Rectum, colon and cæcum shared 15 of the remaining cases; two occurred in the stomach, three in the duodenum and one in the gall bladder. In the vast majority of them, metastasis was to the abdominal lymph nodes and to the liver. The most typical flush is of short duration and changes in colour from salmon red to bluish white, the face usually being red. The flush is often associated with tachycardia, abdominal pain, diarrhœa or ileus. 5-Hydroxytryptamine(5-HT), which is identical with serotonin, is broken down in the body to 5-hydroxyindolacetic acid(5-HIAA) and the latter can be demonstrated in the urine of patients with carcinoidosis.

At the same meeting Haverback and Davidson reported their results with 5-HTP, a precursor of serotonin, and with other drugs, on the motility and intraluminal pressure in the human jejunum. Seven adults who were free of gastrointestinal disease and two patients with non-tropical sprue were the subjects of this study.

The intestinal tract showed a marked increase of motility with doses of 5-HTP which were too small to alter respiration, blood pressure, pulse rate or mental status. Atropine inhibited the hypermotility produced by intravenous administration of 5-HTP but not that produced by serotonin. Brom-lysergic diethylamide inhibited the responses to serotonin and partially those to 5-HTP. When serotonin was given by continuous infusion, the gut soon lost its ability to respond, but 5-HTP stimulation was sustained as long as the infusion lasted. The finding that 5-HIAA was significantly ele-

(Continued on page 66)

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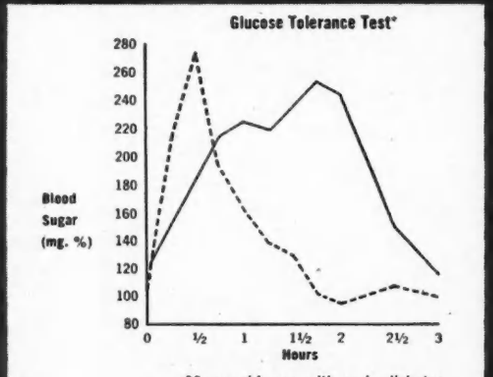

—— 66-year-old man with early diabetes mellitus
---- 68-year-old man with pseudodiabetes following gastric resection
*Constam, G. R.: Northwest Med. 56:919, 1957.

besides diabetes, what diseases may cause symptoms of polyuria, polydipsia, increased fatigability and loss of weight?

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MEDICAL NEWS *in brief*

(Continued from page 58)

vated in the patients with nontropical sprue and Whipple's intestinal lipodystrophy requires further confirmation and study. Haverback believes that serotonin regulates intestinal motility by acting on neural elements within the intestinal wall. This is based on the knowledge that the enterochromaffin cells are in close proximity to the terminal fibres of the submucous plexus.—*Gastroenterology*, 35: 565 and 570, 1958.

CANADIAN SOCIETY FOR STUDY OF FERTILITY

The Canadian Society for the Study of Fertility announces the award of the 1958 "Ortho" prize to Professor C. P. Leblond and Dr. Y. Clermont of the Department of Anatomy, McGill University, for their paper on "Differentiation and renewal of spermatogonia in the monkey Macacus rhesus".

Those interested in submitting a paper to the Society for the 1959 "Ortho" prize of $500 must do so before June 1, 1959. Further details may be obtained from Jean F. Campbell, M.D., Secretary-Treasurer, Canadian Society for the Study of Fertility, 238 Queen's Avenue, London, Ont.

—

A NEW ORAL HYPOGLYCÆMIC AGENT

J. R. Hofstetter and H. Jaccottet of the Medical University Polyclinic of Lausanne have recently published an account of their experience with a new oral hypoglycæmic agent known under the name of P 607 or chlorpropamide (*Schweiz. med. Wchnschr.*, 89: 134, 1959). This compound is also a derivative of the sulfonamides and is very soluble at pH 2-7. Its LD50 is 1675 mg./kg. for the mouse and 2390 for the rat. The new drug has been tried on a series of 31 ambulatory diabetics who have remained under observation for a period of at least two months. In 15 patients who were already well controlled with tolbutamide, chlorpropamide provided equally good control. It was however twice as active as carbutamide and three times as active as tolbutamide for a given dose. A group of eight poorly controlled patients derived much improvement when they switched from the other oral hypoglycæmic agents to P 607. Seven patients either derived no effect from the new drug or else suffered such intolerance to it that they had to give up treatment. One diabetic whose disease had just been discovered was started on P 607, with very encouraging results. Among the manifestations of intolerance which appeared in 10 patients were hot flushes, palpitations and somnolence. It must be pointed out, however, that seven of these 10 patients were able to carry on with the treatment. Some of these manifestations of intolerance showed up after ingestion of alcohol, and the authors point out the unexpected similarity in effect between P 607 and disulfiram (Antabuse).

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IMPROVED INTRAMUSCULAR INJECTION

The usual intramuscular injection into the upper outer quadrant can result in paralysis, abscess or hæmatoma. A simplified way of outlining the landmarks for the

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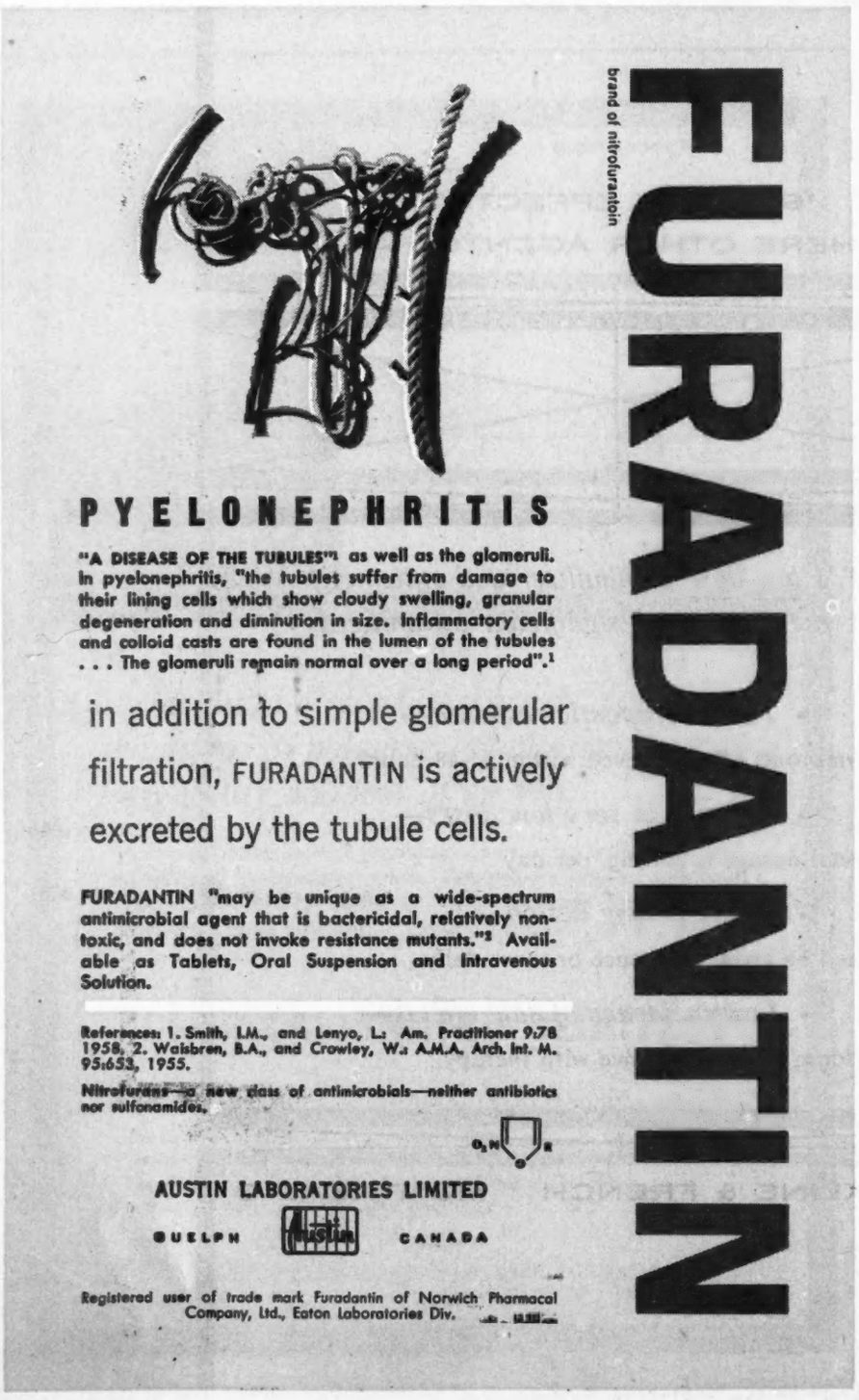
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MEDICAL NEWS *in brief*

(Continued from page 66)

ideal site for intramuscular injection (von Rechenberg and Schmidt: *German M. Monthly*, 3: 347, 1958) is given as follows. After identifying the anterior iliac tubercle, the forefinger and third finger of the contralateral hand are spread as wide as possible with their tips touching the rim of the iliac crest. The lower half of the area within this triangle is the site for intramuscular injection, which is given at a depth of 1½-2 inches. Necropsy studies of injections of India ink have convinced the authors that a great number of injections given in the upper outer quadrant were actually deposited in subcutaneous fat. The area as outlined above on the other hand has much more muscle and less fat; in addition, if damage to the tissues should occur from an injection the results would not be serious as they would involve only the medial or minimal gluteal muscles. The risk of damage to the sciatic nerve inherent in injection into the old site is eliminated.

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SPONTANEOUS STROKES IN THE YOUNG

Spontaneous strokes in healthy normotensive young subjects are not rare, according to Stevens (*Ann. Int. Med.*, 49: 1022, 1958). Two large etiological groups are identified, those due to cerebral venous thrombosis and those due to cerebral arterial thrombosis. Of the latter group, 16 cases are reported, some due to carotid artery thrombosis. Carotid artery thrombosis can often be diagnosed by clinical observation, including a history of acute onset of headache with contralateral hemiplegia and ipsilateral Horner's syndrome. Palpation of the carotid artery and ophthalmodynamometry are valuable aids in diagnosis. Arteriography is often indispensable, particularly to exclude intracranial aneurysm or tumour, but unnecessary, painful or dangerous tests can often be avoided by careful analysis of clinical data. Most spontaneous arterial strokes in the healthy young are due to solitary atheromatous plaques similar to those found in older patients. Stress seems to precipitate the attack in some cases.

The usefulness of anticoagulants in the treatment or prevention of a "stroke" requires further study. Prognosis in this age group is generally good with no specific treatment, and the indiscriminate use of anticoagulants without proper refinement of the heterogeneous diagnosis of "stroke" is hazardous. Increased bleeding into a hæmorrhagic infarct is a particular danger.

—

XXI INTERNATIONAL CONGRESS OF PHYSIOLOGICAL SCIENCES

The 21st International Congress of Physiological Sciences will take place in Buenos Aires, Argentina, August 9-15, 1959. The congress is organized by the International Union of Physiological Sciences, and during the sessions papers will be read on physiology, pharmacology and allied subjects. The President is Professor B. A. Houssay and the Secretary Professor A. O. M. Stoppani. The Secretarial Offices are at Facultad de Ciencias Médicas, Paraguay 2151, Buenos Aires, Argentina.

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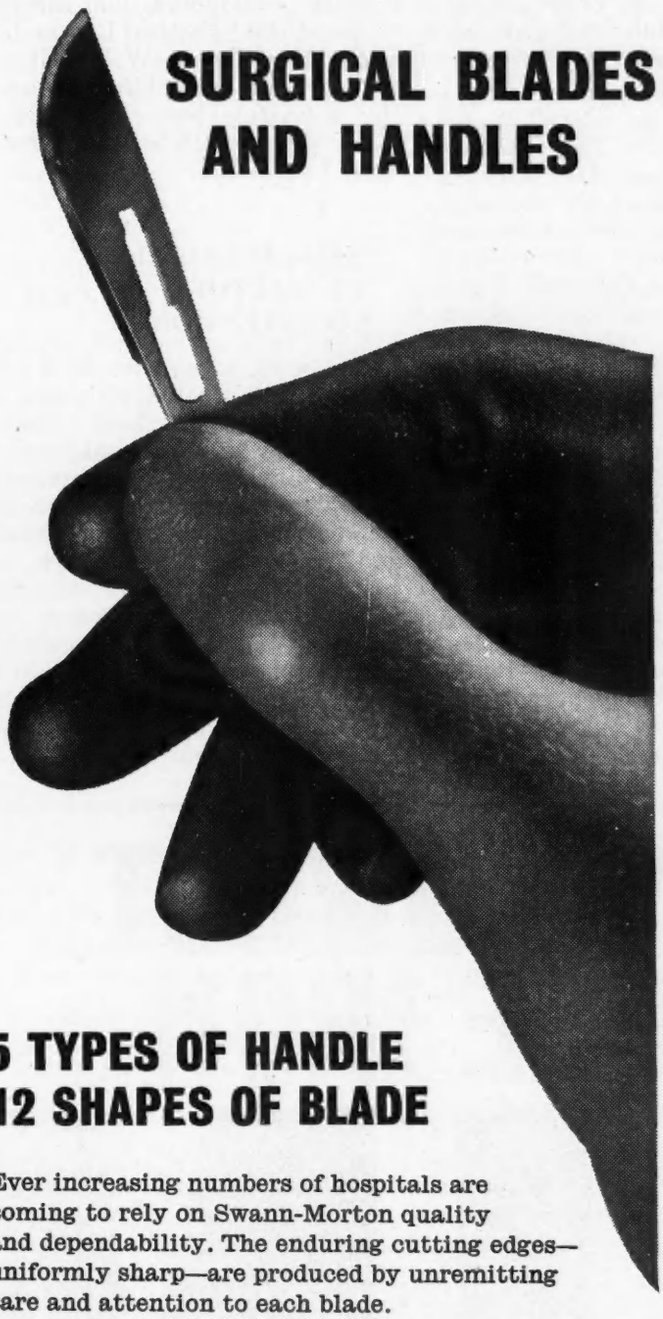

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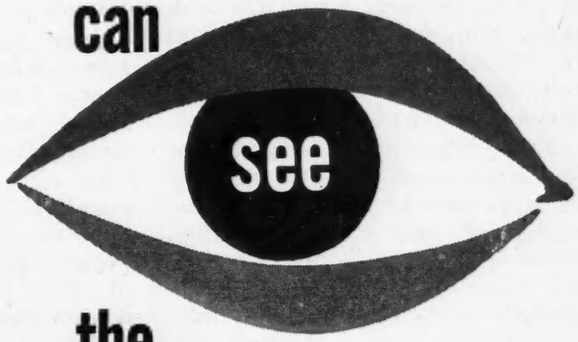

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MEDICAL NEWS *in brief*

(Continued from page 72)

The XXI International Congress of Physiological Sciences will take place 61 years after the first one, which met in Basle in the year 1889.

Twelve symposia with three participants each will take place during the congress, and there will be 16 special features. Up to 918 communications will be accepted, and 17 sessions will take place at the same time. There will also be rooms for film exhibitions.

Before the congress, an independent symposium has been arranged on adaptation to cold with participation of American, Canadian, British and French physiologists. The Ciba Foundation will hold another symposium on human pituitary hormones. During the week after the congress, the Argentine Congress of Gastroenterology will be held. Interesting symposia will be held before or after the congress in Montevideo, Uruguay, on central mechanisms of learning, and on oxytocin. Other meetings and symposia are being organized in Santiago, Chile and Rio de Janeiro, Brazil.

POSTGRADUATE COURSES IN OPHTHALMOLOGY

The Institute of Ophthalmology of the Americas announces that the Second Series of Post-Graduate Courses for Ophthalmologists will be given September 14-November 25, 1959.

Courses will be offered in the following subjects: Advances in Ocular Prosthesis; Anomalies of Extraocular Muscles including Ptosis; Biomicroscopy; Biomicroscopy using Near Ultra-Violet, Cobalt Blue and Polarized Light; Clinical Bacteriology; Complications of Ophthalmologic Surgery; Contact Lenses; Electrophysiology and Applied Physiology of the Eye; Enucleation and Evisceration; Fundamental Principles of Orthoptics; Glaucoma; Gonioscopy and Tonography; Keratectomies and Keratoplasties; Lacrimal Sac Surgery; Low Vision Aids; Ocular Biochemistry; Ocular Geriatrics; Ocular Microbiology; Ocular Neuro-ophthalmology; Ocular Photography; Ocular Radiology; Ocular Therapeutics; Ophthalmoscopy; Pathology; Perimetry; Physiological Optics; Plastic Eye Surgery; Pleoptics and Macular Function Testing; Psychosomatic Factors in Ophthalmology; Radio-Isotopes in Ophthalmology; Recent Advances in Cataract Surgery; Refraction; Retinal Detachment; and Surgery of the Orbit. Further information from: Mrs. Tamar Weber, Registrar, Institute of Ophthalmology of the Americas, New York Eye & Ear Infirmary, 218 Second Avenue, New York 3, N.Y.

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THERAPEUTICALLY "REFRACTORY" HYPERTENSION

Lee *et al.* (*Ann. Int. Med.*, 49: 1129, 1958) treated 35 cases of refractory hypertensive disease with chlorothiazide in addition to therapeutic regimens previously shown to be ineffective. The majority of patients showed a definite and impressive hypotensive response. The mechanism of action of this drug in such instances was not clear, but in some patients the absence of weight loss or diuresis suggests that its mechanism may not be entirely that of electrolyte loss.

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It is considered that the place of chlorothiazide in the treatment of hypertensive disease probably lies between reserpine, hydralazine and others, and the autonomic system blocking drugs. If the first agents are not effective, chlorothiazide may be added to attempt to potentiate their effectiveness, before the use of the autonomic blocking drugs superimposed on a chlorothiazide-drug combination, if necessary.

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CAUSES OF OBSTRUCTION OF THE SUPERIOR VENA CAVA

Clinical histories and pathological findings are reviewed by Failor *et al.* (*Proc. Staff Meet. Mayo Clin.*, 33: 671, 1958) in 33 cases of superior vena caval obstruction that came to necropsy. The three predominant causes of superior vena caval obstruction in this series were carcinoma of the lung in 55%, malignant lymphomas in 15% and chronic mediastinitis in 12%.

There was no consistent correlation between symptoms and the degree of obstruction found at necropsy. However, in patients with malignant tumours, any evidence of obstruction, regardless of degree, points to direct involvement of the wall of the superior vena cava. When superior vena caval obstruction was due to a benign lesion, the initial symptoms of disease were usually related to the obstruction.

—

PRIMARY PULMONARY HYPERTENSION

Six patients suffering from primary pulmonary hypertension and reported by Yu (*Ann. Int. Med.*, 49: 1138, 1958) complained of exertional dyspnœa and fatigue, but palpitation, syncope, cough, dizziness, cyanosis and hæmoptysis were less frequent. The second pulmonic sound was uniformly accentuated and often split, the cardiac murmurs were not diagnostically helpful. The electrocardiogram showed right ventricular hypertrophy in five patients, and P-pulmonale waves in three. Radiological examination disclosed enlargement of the right ventricle and pulmonary artery in all cases, without enlargement of the left atrium.

Right heart catheterization revealed marked pulmonary hypertension with normal wedge pressures, high pulmonary vascular resistance and low cardiac output. Intravenous Priscoline and hexamethonium caused slight to moderate reduction in pulmonary vascular resistance.

Four patients developed right ventricular failure and died within a year. Pathological examination in three cases demonstrated right ventricular hypertrophy and enlargement, right atrial enlargement and dilatation of pulmonary arteries with atheromatous changes. Histological studies disclosed marked reduction in arterial and arteriolar lumina due to intimal proliferation and medial hypertrophy.

These workers suggest that primary pulmonary hypertension is largely due to structural pulmonary vascular changes, and that functional pulmonary vasoconstriction plays a minor role.

—

CONGENITAL AORTIC STENOSIS

Congenital aortic stenosis has long been considered to be an unusual and relatively benign form

(Continued on page 76)

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MEDICAL NEWS *in brief*

(Continued from page 75)

of congenital heart disease, but recent reports have called attention to the variability of the clinical course in patients with the classical physical findings of this lesion. With the development of techniques for surgical correction of aortic stenosis, precise evaluation of the severity of obstruction has become necessary in proper selection of patients for operation. This has been made possible by the development of safe methods for the measurement of left heart pressure.

Morrow *et al.* (*Circulation*, 18: 1091, 1958) summarize the clinical and hæmodynamic findings in 30 patients, in all of whom the diagnosis of aortic stenosis was confirmed by the demonstration of a systolic pressure gradient between the left ventricle and a systemic artery. The technique of operative correction under direct vision and the results of surgical treatment in 18 of these patients are described.

Left heart catheterization was valuable in the precise assessment of the severity of the obstruction and in the detection of subvascular stenosis. Eighteen patients were operated upon, 14 with direct exposure of the aortic valve.

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PATHOGENESIS, DIAGNOSIS AND TREATMENT OF STROKES

Study and treatment of cerebral vascular diseases can no longer be confined to one specialty such as neurology. In fact, strokes are not primarily lesions of the brain, but usually represent a localized manifestation of a generalized condition, most commonly either atherosclerosis, hypertension, or a disorder of the clotting mechanism. Many specialists have a legitimate interest, including lipid chemists and other biochemists, ophthalmologists, roentgenologists, those studying atherosclerosis, hypertension and blood coagulation, vascular and neurosurgeons and many others, as Wright points out (*Ann. Int. Med.*, 49: 1004, 1958).

The relation of the amount of saturated fats ingested to the development of strokes is not established, and much further work needs to be carried out in this area. It is doubtful whether a high fat meal increases in any significant measure the risk of intravascular thrombosis.

The use of anticoagulants constitutes an important contribution to the treatment of transient or "little" strokes due to partial occlusion of the carotid or basilar arteries. They appear to influence favourably the long-term outlook for patients after the first stroke. Additional studies are being carried out to refine the diagnosis further and to evaluate the risks of this treatment, especially when used during the acute phases of a stroke involving the cerebral arteries and other branches passing through the brain substance. Venous thrombosis should also be considered more frequently in analyzing the pathogenesis of strokes. New surgical techniques are being used for the treatment of massive brain hæmorrhage, and for prosthetic by-passing of segments of the carotid arteries when they have developed occlusion. These and other surgical approaches are pioneering and important forerunners of the future. Rehabilitation and psychiatric care are being subjected to more critical scrutiny and evaluation but, pend-

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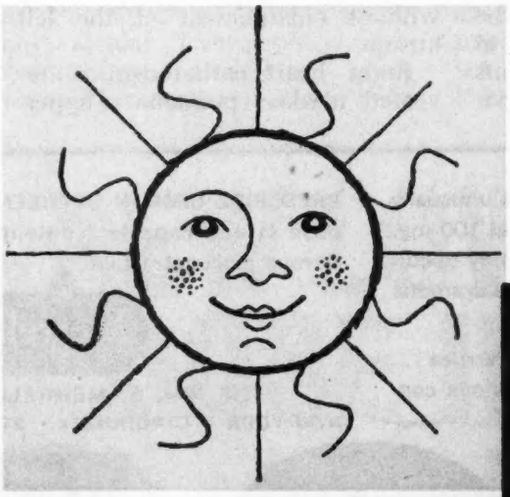

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ing the results, it seems justified to apply the principles of both very early in the treatment of the patient.

—

CAUSES OF PLUMMER-VINSON (PATERSON-KELLY) SYNDROME

Wynder and Fryer (*Ann. Int. Med.*, 49: 1106, 1958) studied 150 patients with dysphagia believed due to tissue abnormalities associated with Plummer-Vinson syndrome. Statistical comparison is made with suitable control groups.

Plummer-Vinson syndrome occurs in males, though relatively rarely, and a representative case is described. The relative distribution of signs and symptoms is presented. Among these, early loss of teeth has been little stressed in previous reports. Of 133 women with Plummer-Vinson syndrome, 20 had lost their teeth before the age of 30.

The dietary pattern of the study and control cases is presented in some detail. The diet of the general population in which Plummer-Vinson disease occurs most commonly is deficient in fresh fruits, vegetables and meats. Normal serum iron and hæmoglobin values do not rule out the presence of Plummer-Vinson disease; 68% of 109 female patients had normal serum iron levels.

The apparent reduction in the present-day incidence of Plummer-Vinson disease suggests that nutritional supplements, perhaps of iron and vitamins B and C, are effective prophylactic agents both for the syndrome itself and for certain types of cancer associated with it.

—

AERO MEDICAL ASSOCIATION

The Aero Medical Association is holding its thirtieth annual meeting in Los Angeles, California, April 27-29. Latest advances and developments in aerospace medicine will be presented by nearly 200 scientists from the United States and several other countries. Symposia will be conducted on space bioscience and technology and on aviation toxicological health hazards. There will be papers on medical aspects of aircraft accident investigation, protective equipment, oxygen-breathing systems, flying stress, sealed cabins and other subjects. The fifth annual Louis H. Bauer lecture will be given by Dr. Hans Selye of Montreal on "Stress in aviation medicine". The Association's awards for achievement in aerospace medicine will be presented at the closing banquet on April 29.

—

A LIBRARY CENTENARY

In the Massachusetts General Hospital, Boston, stands the famous Treadwell Library which has just celebrated its centenary. This library, which contains a wide range of volumes and periodicals, was built around the Treadwell Collection accumulated by Drs. John Dexter Treadwell and John Goodhue Treadwell, both prominent practitioners in Salem, Mass. These men, father and son, had accumulated 2500 volumes when in 1858 they handed these over to the Massachusetts General Hospital. A tastefully produced booklet in commemoration of the centenary describes the library and its services.

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1. Shapiro, S.: Angiology 8:504 (Dec.) 1957.

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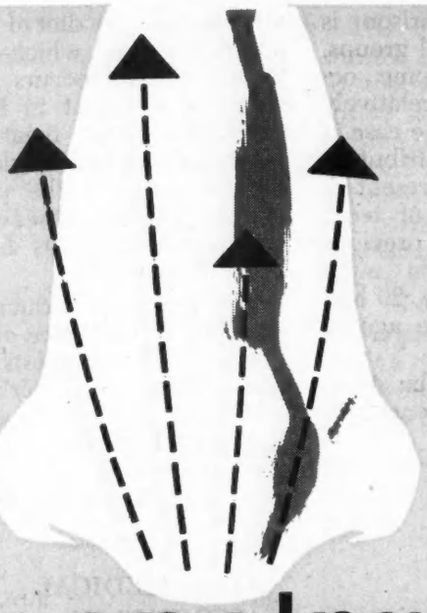

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